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## Working Paper Big-up yourself! The Return to Self-Promotion

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## **Big-up yourself!** The Return to Self-Promotion\*

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ABSTRACT. Self-promotion plays a significant role in both the labor market and society; however, its prevalence and effects remain difficult to quantify. This paper leverages the unique setting of professional surfing to examine the causal impact of self-promotion—proxied by the act of "claiming" a wave—on performance outcomes. Utilizing data from over 5,500 waves in the World Surf League and employing an instrumental variables approach, we find that self-promotion provides substantial benefits, increasing wave scores by approximately 0.8 standard deviations, or 1.6 points out of a maximum score of 10. Notably, female surfers are significantly less likely than their male counterparts to engage in self-promotional behaviors, as reflected by a lower ferquency of claiming, yet they receive comparable benefits when they do claim. These findings offer valuable insights into the rewards of self-promotion in competitive, high-stakes environments and underscore the potential for women to improve outcomes by more frequently adopting such behaviors.

## JEL classification: J24, J16, Z22

Keywords: Self-promotion, Performance evaluation, Professional surfing, Gender differences, Instrumental variables

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#### 1. INTRODUCTION

Self-promotion is ubiquitous in the labour market and society. With the arrival of social media, self-promotion is reaching new heights with millions of individuals around the world actively choosing to make their prosocial behaviours and achievements visible to others. This raises a fundamental question: does self-promotion pay off? According to signaling theories, self-promotion can serve as a tool to influence the perception of one's quality or abilities, thereby shaping success across various domains (Spence, 1973). Effective self-promotion can positively influence outcomes such as securing a job, negotiating higher salaries, winning elections, or attracting romantic partners. However, self-promotion is not without its costs. It requires significant time and effort, and it risks negative perceptions if the promoted qualities fail to meet expectations or violate social norms of modesty. As a result, some individuals may avoid self-promotion, potentially leading to situations of relative disadvantage and underestimation of their skills or abilities.

Estimating the returns to self-promotion behavior faces several challenges. First, self-promotion behaviors are inherently qualitative and challenging to measure (Exley and Kessler, 2022). Actions aimed at appearing competent and capable—such as highlighting one's talents or making others aware of one's accomplishments—are often subjective, making them difficult to quantify. For example, individuals might describe their abilities using vague and positive terms like "good" or "proficient" rather than providing precise or measurable descriptions. Second, assessing the impact of self-promotion requires comparisons between individuals with similar levels of performance in contexts where performance is both well-defined and accurately measurable. Disentangling traits associated with self-promotion (such as levels of aversion to risk and competitiveness) from performance outcomes is not straightforward. Third, to the extent that payoffs associated with self-promotion will depend upon the expected gains (and costs if it fails) (Becker, 1968), there must exist clear incentives to engage in self-promoting behaviours. However, the expected benefits and the intrinsic costs of such behaviors are often ambiguous or difficult to evaluate.

In this paper, we address these challenges within the distinctive context of international surf contests organized by the World Surf League (WSL). This setting offers several advantages for studying self-promotion. First, we observe a clear and measurable marker of self-promotion: the non-verbal gesture of a fist pump, signaling the surfer's achievement. Unlike broader societal contexts, the rules and rewards in these contests are well-defined. For each wave surfed, athletes receive a score from a panel of judges. Before the score is awarded, they have the opportunity to nonverbally promote their performance. The stakes are high, with a prize of USD 100,000 for winning a WSL Championship Tour (CT) event. Surfers, therefore, face strong incentives to make strategic decisions about whether to engage in self-promotion. At the same time, there are significant potential costs, such as reputational harm and the loss of lucrative sponsorships, which can arise from poor branding or perceived over-promotion.

We leverage rich longitudinal data from the World Surf League (WSL) to examine the impact of self-promotion within the unique context of professional surfing. Across multiple events held at some of the world's most renowned surf breaks—from Pipeline in Hawaii to Bells Beach in Australia—surfers compete in heats of 30-45 minutes across a series of progressively competitive rounds. Our estimation strategy employs within-surfer, within-heat comparisons, accounting for a wide range of environmental and contest-specific factors (e.g., wave type and quality) as well as unobserved, time-invariant surfer characteristics (e.g., style, ability, and preferences). Additionally, we control for key within-heat variables, such as whether the surfer successfully completed the wave or executed a final maneuver. While our approach mitigates many potential confounding factors associated with both claiming a wave and the score awarded by judges, there remains a concern that unobserved within-heat factors could still bias the estimates.

A key challenge in estimating the causal effect of claiming is disentangling it from the underlying quality of surfing performance and wave conditions. It is possible that claiming merely reflects a surfer's spontaneous reaction or elation in response to their performance, resulting in similar scores even in the absence of the gesture. To address this concern, we employ an instrumental variables strategy, using the last wave surfed in a heat as an instrument for claiming. Given the time constraints of heats (typically 30 minutes), the final wave is often dictated by ocean conditions, introducing an element of randomness. Surfers with priority frequently take the last wave under time pressure and are more likely to claim it in a final attempt to maximize their score. Importantly, we allow the instrument to vary across competition rounds, where pressure and strategic considerations intensify as surfers progress. The increasing likelihood of claiming the last wave in later rounds provides additional variation, enhancing our ability to estimate the causal effect of claiming on scores by leveraging differences in strategic behavior as the contest unfolds.

We begin by documenting that claiming is a relatively uncommon practice among professional surfers, with male surfers being significantly more likely to claim than their female counterparts — approximately seven times more likely. Specifically, males claim a wave in 7% of instances, compared to just 1% for females. Moreover, we find substantial and statistically significant rewards associated with claiming. In our OLS fixed-effects specification, which includes wave-level controls, claiming a wave is estimated to increase the final wave score by roughly 1 standard deviation, equivalent to an increase of 2 points on a 10-point scale. Importantly, the magnitude of this effect is similar for both men and women, suggesting that the returns to self-promotion do not differ significantly by

gender. We document further that the impact of claiming increases monotonically with the degree of enthusiasm or intensity of the claim. Finally, using a 2SLS estimator to address potential within-heat unobserved heterogeneity, we show that the estimated effect of claiming is reduced to around 0.8 standard deviations — our preferred and more conservative estimate.

Overall, the results illustrate clear pay-offs to self-promotion. Our study makes several contributions to the literature. A central contribution, as already noted, lies in the novel approach to measuring self-promotion. Existing research on self-promotion has often struggled to identify clear, observable indicators of such behavior. For instance, Exley and Kessler (2022) use self-evaluations of performance that are conveyed to potential employers as a proxy measure of self-promotion. This paper uses a transparent marker of self-promotion: the act of "claiming" a wave during professional surfing contests. As a real-time, post-performance gesture performed in front of a panel of judges, this behavior offers a high-fidelity measure that is both observable and consistent across individuals. A closely related study by Furley et al. (2020) investigates claiming in surf contests but is based on a small experimental sample whereas our research utilizes a large dataset of actual contest scores officiated by WSL judges.

This study makes an important methodological contribution by examining self-promotion in a highstakes, real-world setting. Much of the existing research on self-promotion is based on laboratory experiments or surveys, where participants may not fully internalize the tangible rewards or penalties associated with showcasing their achievements (Exley and Kessler, 2022; Mancuso et al., 2017; Rudman, 1998a). In contrast, professional surfing competitions—governed by transparent scoring rules and substantial financial incentives—offer a unique environment to observe self-promotion dynamics in action. With prize money, sponsorship deals, and reputational standing at stake, surfers must make strategic decisions about whether to claim a wave. Furthermore, this study advances causal inference in the self-promotion literature by employing an instrumental variables approach that exploits quasirandom variation in surfer claiming behavior and competition dynamics. This strategy addresses the endogeneity concerns often present in observational data, estimating how claiming a wave influences scoring outcomes separate from underlying performance quality.

Our study contributes to the expanding literature on gender differences in self-promotion behaviors. We find that female professional surfers are less inclined to self-promote compared to their male counterparts, aligning with evidence from other professional and organizational settings, such as corporate environments, online labor platforms, and academic institutions (Exley and Kessler, 2022; Rudman, 1998a; Moss-Racusin et al., 2012; Olson et al., 2018; Meyer et al., 2017; Moses et al., 2020; Bosak et al., 2018; Mancuso et al., 2017). Notably, gender disparities in self-promotion tend to be most pronounced in domains traditionally perceived as male-dominated (Exley and Kessler, 2022). Our study adds new evidence from the context of surfing, a sport with a long-standing history of male dominance. We find that although women are significantly less likely to engage in self-promotion, they experience similar benefits as men when they do. This stands in contrast to findings from other studies where women who self-promote often face negative consequences compared to men (Rud-man, 1998a,b; Bosak et al., 2018). This raises important questions about why women surfers refrain from promoting their achievements. Since conventional explanations—such as lower competitiveness or biased subjective evaluations—appear less relevant here, our results suggest that deeply ingrained gender norms may play a stronger role in shaping behavior within the traditionally male-centric culture of surfing (Brennan, 2016; Schmitt and Bohuon, 2022; Olive et al., 2015; Menkedick, 2023; Beachley, 2017).

The remainder of the paper is structured as follows. The following section 2 provides a background to professional surfing and the adjudication of contests. This includes information on the scoring system which informs our empirical analysis. Section 3 provides a description of the data. Section 4 describes the empirical strategy. Section 5 presents the results and robustness checks. Section 6 provides a discussion of the findings and concludes.

## 2. PROFESSIONAL SURFING

Modern surfing traces its origins to Hawaii, where the art of riding waves on wooden boards was first documented as early as the 4th Century AD. Over the centuries, surfing evolved from a cultural practice into a globally recognized sport and a multi-billion-dollar industry. Its status as a mainstream athletic discipline was solidified when surfing made its Olympic debut at the Tokyo Games in 2020. Professional surfing began in 1976 with the establishment of International Professional Surfing, later rebranded as the World Surf League (WSL) in 2015. Today, the WSL serves as the governing body for professional surfers and oversees the annual Championship Tour (CT), the sport's most prestigious competition. The CT features the world's top surfers competing in iconic locations such as Bells Beach and Margaret River in Australia, Banzai Pipeline in Hawaii, Jeffrey's Bay in South Africa, and Teahupo'o in Tahiti.

Surfing has traditionally been a male-dominated sport, with much of its cultural and competitive attention centered on male surfers. The WSL took a significant step toward gender inclusivity in 1980 by introducing a women's division to the Championship Tour. However, female surfers continued to face decades of underrepresentation, limited competitive opportunities, and unequal prize money (Beachley, 2017; Schmitt and Bohuon, 2022). A pivotal shift occurred in 2019 when the WSL implemented equal prize money for male and female athletes across all events. As the first U.S.-based global sports league to do so, this decision demonstrated the league's dedication to gender equality.

Nevertheless, disparities remain, particularly in sponsorship deals, media visibility, and brand endorsements, where women continue to encounter unequal opportunities (Schmitt and Bohuon, 2022).

Male and female surfers compete in the same CT events at the same world-class locations and typically compete in the same conditions with the same pool of judges. The CT consists of 34 men in 11 events and 17 women in 10 events. Each event is structured similarly for both men and women, with rounds comprised of heats involving two to three surfers. These heats typically last 30 minutes and are judged by a panel of five judges who score each wave on a scale of 0.1 to 10. The scoring system discards the highest and lowest scores for each wave, and the surfer receives the average of the remaining three scores. While surfers can ride an unlimited number of waves in a heat, only their two best-scoring rides are used to calculate their heat total (out of a maximum of 20 points). The highest-scoring surfer in each heat advances to the next round, culminating in the finals. After each event, surfers are awarded points based on their rankings, with the season's champion determined by the total points accrued across the series.

The WSL employs the same judging criteria for men and women, with scores based on five key factors: (i) commitment and degree of difficulty, (ii) innovative and progressive maneuvers, (iii) combination of major maneuvers, (iv) variety of maneuvers, and (v) speed, power, and flow. Scores are categorized into five bands: 0.1–1.9 (Poor), 2.0–3.9 (Fair), 4.0–5.9 (Average), 6.0–7.9 (Good), and 8.0–10.0 (Excellent). Importantly, the weighting of these criteria can vary depending on the conditions at each event location. For example, at Pipeline, where barreling waves are prominent, tuberiding maneuvers are prioritized. In contrast, at other locations, aerial maneuvers may receive higher scores. Judges also adjust scoring based on changing ocean conditions during the day and tailor their approach to the specific heat format and category of surfers (male or female). These measures aim to ensure consistency and fairness in scoring across diverse events and conditions.

### 3. DATA DESCRIPTION AND DESCRIPTIVE STATISTICS

In this study, we focus on the 2019 Championship Tour (CT) season for both the men's and women's competitions, utilizing data from the World Surf League (WSL) website. The WSL provides a comprehensive dataset that includes detailed information on all CT events, heat results with individual wave scores, event standings, and surfer-specific data such as biographical details, historical rankings, and performance metrics like average heat scores and win-loss records. Observations with wave scores below 1 were excluded from the sample, as these waves were typically not televised.

To enhance our dataset, we manually gathered additional information by reviewing footage from each televised heat of the 2019 CT season.<sup>1</sup> A key aspect of our analysis centers on *claiming*—defined

<sup>&</sup>lt;sup>1</sup>The data collection was undertaken by a unique research assistant who was recruited due to his knowledge of the surfing world and was strictly instructed about the coding needs and interpretation of manoeuvres, gestures and claims.

as a deliberate and noticeable act of self-promotion through non-verbal gestures, such as a fist pump, performed after completing a wave. To capture this, we created an indicator variable that equals one if the surfer made such a gesture and zero otherwise. Additionally, we categorized claims into three distinct levels of enthusiasm: *low*, *moderate*, and *high*. These levels were defined as follows:

- (i) Low-intensity claims: Subtle personal gestures without direct interaction with the public, typically involving small arm or head movements. Examples include a slight fist pump below hip level or a small, inward head nod.
- (ii) Moderate-intensity claims: Gestures indicating satisfaction and involving some visible engagement with the public. These typically occur between hip and shoulder height. Common examples include a confident fist pump in front of the chest, arms akimbo, or a surfer briefly acknowledging the audience.
- (iii) **High-intensity claims**: Bold, expressive gestures often directed toward the public or the judges' tower. These gestures generally occur above shoulder level and signal significant excitement or satisfaction. Examples include raising both arms above the head, making exaggerated fist pumps in the air, or looking toward the judges while signaling for a perfect score.

In addition to claiming, we manually collected other wave-level variables that reflect key aspects of surfer performance. These include an indicator for whether the surfer successfully completed the wave (i.e., did not fall off) and an indicator for whether the surfer performed a final maneuver at the closing section of the wave where the lip closes up—a move that typically demonstrates skill and commitment and often results in a significant increase in wave scores.

Table 1 presents descriptive statistics for the key variables of interest. The first column is for the combined sample of males and females, while columns 2 and 3 are for the respective male and female subsamples. The fourth column shows differences in mean values between the male and female subsamples. On average, the wave score is approximately 4.2 points out of 10, with women scoring slightly higher than men. Surfers claim a wave about 5% of the time, with a notable disparity between genders: men claim waves 7% of the time compared to just 1% for women. The table also reveals differences in nonverbal claiming gestures, with moderate-level claims being the most frequent. Over 70% of waves are ridden through to completion, and around 30% feature a final maneuver, with minimal differences between men and women.

Due to resource limitations, we excluded heats from the first two events of the season for both men and women, restricting our dataset to 9 events for men and 8 events for women in 2019.

#### 4. Empirical Strategy

We begin by estimating a fixed-effects regression model to examine how self-promotion, measured by a surfer's non-verbal "claim," affects wave scores in professional surfing contests. Our dependent variable,  $\text{Score}_{ierh}$ , is the normalized score awarded to surfer *i* in event *e*, round *r*, and heat *h*. Our key independent variable,  $\text{Claim}_{ierh}$ , is an indicator (or categorical) variable capturing whether—and to what extent—the surfer claimed the wave. We estimate the following model via Ordinary Least Squares (OLS):

$$Score_{ierh} = \beta_0 + \beta_1 \operatorname{Claim}_{ierh} + \beta' \mathbf{X}_{ierh} + \delta_i + \phi_e + \eta_r + \gamma_h + \epsilon_{ierh}, \tag{1}$$

where  $\mathbf{X}_{ierh}$  is a set of wave-level controls (e.g., whether the surfer completed the wave or performed a final maneuver). We include individual surfer fixed effects ( $\delta_i$ ) to account for unobserved traits such as style and personality, as well as event ( $\phi_e$ ), round ( $\eta_r$ ), and heat ( $\gamma_h$ ) fixed effects to capture variation in contest conditions, such as wave/weather factors and judging panels. The error term  $\epsilon_{ierh}$ is assumed to be idiosyncratic.

The coefficient of interest,  $\beta_1$ , represents the effect of claiming on judged performance. Although including a rich set of fixed effects (surfer, event, round, and heat) and wave-level controls mitigates many potential confounds, any unobserved factors that vary within a surfer's 30-minute heat may still bias our estimates. One particular concern is the difficulty of fully controlling for the intrinsic quality of the wave ridden. Claims in surfing may sometimes be spontaneous reactions to a strong ride, rather than deliberate attempts to influence the judges (Furley et al., 2020). To the extent that these spontaneous claims differ systematically from strategic self-promotion, our estimates of  $\beta_1$  could still be biased. Furthermore, prior scores may influence claiming behavior, and measurement error in identifying claims may also introduce endogeneity.

To address these identification challenges, we employ an instrumental variables (IV) strategy that uses the last wave ridden in a heat as an instrument for  $\text{Claim}_{ierh}$ . As the clock winds down, surfers have only one final opportunity to improve their overall standing, making a claim on this last wave more likely to reflect strategic self-promotion rather than a purely reflexive response to wave quality. Additionally, surfers have limited discretion over which wave arrives last, due to both time constraints and the ocean's natural variability. This randomness in the final wave can generate exogenous variation in the likelihood of claiming.

Under these assumptions, an indicator for the last wave of the heat can serve as a valid instrument for  $\text{Claim}_{ierh}$ . Specifically, we introduce a first-stage equation in which we regress claiming on the last-wave indicator, along with the full set of controls and fixed effects detailed above. Because the

effect of the last wave on claiming may differ by round (e.g., opening round vs. semi-finals), we also include interactions between the last-wave indicator and round fixed effects in the first stage. In earlier rounds, surfers may behave differently (or have different incentives to claim) than in later rounds (e.g., semi-final, final).

$$Claim_{ierh} = \pi_0 + \pi_1 LastWave_{ierh} + \sum_r \alpha_r (LastWave_{ierh} \times 1_r) + \pi' \mathbf{X}_{ierh} + \delta_i + \phi_e + \eta_r + \gamma_h + \nu_{ierh}.$$
(2)

Thus, the excluded instruments in the second-stage (IV-2SLS) estimation of  $\text{Score}_{ierh}$  are the lastwave indicator and its interactions with the round dummies (e.g., opening round, semi-final). Because these round dummies also appear in the score equation, identification of  $\beta_1$  is driven by within-round variation in whether the surfer rides the last wave. The last-wave indicator is a valid instrument if it is uncorrelated with  $\epsilon_{ierh}$  (exogeneity) and strongly correlated with claiming in the first stage (relevance). In other words, the final wave should affect Score<sub>ierh</sub> only through its influence on Claim<sub>ierh</sub>. We have argued that this exclusion restriction is plausible, and in the results section provide further analysis of the instrument's validity and potential threats.

## 5. Results

5.1. **Ordinary Least Squares.** Table 2 presents the main OLS results for the effect of claiming on wave scores during the WSL CT competition. We present estimates sequentially from models with no controls (col.1), with contest fixed effects (col.2), with individual surfer fixed effects (col.3) and the full set of controls that additionally includes wave level controls (col.4). Each column shows the estimated effect of claiming, measured in standard deviations of the wave score, with robust standard errors clustered at the surfer level reported in parentheses below.

The results in Table 2 show a consistently large and positive effect of claiming on wave scores. In the baseline model (column 1), the coefficient on claiming is 1.462 standard deviations of the wave score. Adding controls for contest-specific factors, such as differences across events, rounds, and heats, slightly reduces the coefficient to 1.457 standard deviations (column 2), indicating that contest heterogeneity explains only a small fraction of the observed relationship. When individual surfer fixed effects are introduced in column 3, the coefficient increases to 1.481 standard deviations. This suggests that time-invariant surfer-specific characteristics—such as inherent skill, personal style, or claiming tendencies—are important, and that within-surfer variation in claiming behavior has a stronger effect on wave scores. In the preferred specification (column 4), which includes both fixed

effects and wave-level controls (e.g., whether the surfer completed the wave or executed a final maneuver), the coefficient decreases to 1.08 standard deviations. This reduction highlights that a nontrivial part of the observed effect of claiming is mediated by wave-specific performance factors. In all specifications, the effect of claiming is highly significant at the 1 percent level.

Even after controlling for a wide range of covariates, the estimated impact of claiming remains large. The preferred estimate of 1.08 standard deviations translates into more than a 2-point gain (out of 10 possible points), or a 50% increase in the wave score, based on the mean and standard deviation reported in Table 2 (column 1). This effect is roughly twice as large as other key performance indicators, such as wave completion or executing a final maneuver. The last row of Table 2 reports Oster (2019) test results that gauge the robustness of our findings to omitted-variable bias.<sup>2</sup> The test statistics, denoted by  $\delta$ , are large, indicating that all specifications remain robust even under significant selection on unobservables. For example, for our preferred specification in column 4, unobservable characteristics would need to be about four times more correlated with claiming than the observed characteristics to nullify the claiming effect.

Table 3 presents the results from the same specifications as reported earlier, but replaces the binary claim indicator with a categorical variable capturing different levels of claiming intensity. The coefficients represent the standardized wave scores for each level of claiming intensity, with no claim serving as the reference category. Across all specifications, greater claiming intensity is consistently associated with progressively higher wave scores, and the effects remain statistically significant at the 1% level. In the preferred specification, reported in column 4, which includes the full set of controls, a mild claim increases the wave score by 0.91 standard deviations, a moderate claim by 0.94 standard deviations, and a strong claim by 1.45 standard deviations. These results highlight the amplifying effect of self-promotion, where increasing the intensity of claiming elicits a stronger positive response from judges.

The results in Tables 2 and 3 are based on the combined male and female sample of CT surfers. In Table 4, we present the returns to claiming behavior separately for male and female surfers. Specifically, we replicate the four specifications from Table 2 for the male subsample (columns 1–4) and the female subsample (columns 5–8). The results indicate that claiming behavior is associated with positive and significant returns for both male and female surfers. While the magnitude of the effect of claiming is initially larger for male surfers in the baseline and fixed effects models, the returns converge to similar levels once wave-specific performance factors are included. In the fully controlled

<sup>&</sup>lt;sup>2</sup>This method, an extension of Altonji et al. (2005), estimates the relative importance of unobserved factors. Specifically, it calculates how strongly unobservables must be correlated with claiming—given a user-defined  $R_{\text{max}}$  (here set following Oster (2019) to 1.3 times the  $R^2$  from a regression of the outcome on treatment and observed controls)—to drive the treatment effect to zero.

specification, the effect of claiming is approximately 1.07 standard deviations for men and 1.04 standard deviations for women. Once again, all estimated coefficients are highly statistically significant. Although, as noted earlier, female surfers are less likely to claim than their male counterparts, these findings suggest that the returns to claiming are essentially the same for men and women after accounting for contest, individual, and wave-level performance factors.

5.2. **Instrumental Variables.** These estimates of claiming's impact on wave scores come from withinsurfer, within-heat comparisons. By controlling for key individual and contest-level factors that influence wave quality and surfer ability, we aim to better isolate the effect of claiming on awarded performance. Although we include explicit measures of wave quality and show robustness to substantial selection on unobservables, the possibility of unobserved heterogeneity remains. It is conceivable that the claiming variable could still capture underlying aspects of a surfer's performance on a given wave. Ideally, identifying the causal effect of claiming would involve comparing the same wave with and without a claim, an impossible scenario in a non-experimental context. Therefore, we adopt an instrumental variables approach, a commonly used method to mitigate endogeneity in observational data.

As previously noted, the causal effect of claiming is identified by variation in whether the surfer claims on the last wave surfed during the heat. The rationale is that surfers are more likely to strategically claim on their final wave of the heat, where the ocean's natural variability and the heat's time constraints reduce selection into higher-quality waves that could be correlated with performance. Furthermore, given that strategies and stakes may vary across competition rounds, we allow the effect of surfing the last wave on claiming behavior to differ across rounds.

As shown in Table 5, surfing the last wave of the heat is strongly associated with an increased probability of claiming, conditional on the full set of controls (column 1). Specifically, surfing the last wave raises the probability of claiming by approximately five percentage points, an effect that is highly significant at the 1 percent level. Notably, the likelihood of claiming increases across rounds, suggesting that surfers exert some control over their claiming behavior, whereas no systematic patterns emerge across events or heats. Performance indicators, such as whether the surfer completed the wave or performed a final maneuver, are also positively associated with claiming. In column 2 of Table 5, we present the first-stage results (equation 2), which include interactions between the last wave and round dummies. These results show that the likelihood of claiming on the last wave increases in higher rounds. While some coefficients on the interaction terms are statistically significant, others are imprecisely estimated. Jointly, the interaction terms are highly significant (p-value = 0.005). The Cragg-Donald (effective) F-statistic for the full set of instruments, including the last wave dummy and round interactions, is 9.22. This value places the instruments in a borderline range, being neither

clearly strong nor definitively weak (Andrews et al., 2019; Bound et al., 1995; Staiger and Stock, 1997).<sup>3</sup> Consequently, we also report results that provide robust inference on the coefficient of the endogenous variable in the presence of potentially weak instruments.

Table 6 presents 2SLS estimates of the impact of claiming on wave score. For comparison, the table also includes the preferred OLS estimate, which incorporates the full set of control variables. Column 1 reports results for the total sample, while columns 2 and 3 focus on male and female subsamples, respectively. All specifications include the full set of controls. As shown in column 1, the 2SLS estimate of the effect of claiming is 0.78 standard deviations, corresponding to an approximate 1.6-point or 40% increase in average wave score. This effect is close to 30 percent smaller than the OLS estimate and is less significant, yet remains significant at conventional levels (*p*-value = 0.089). Results from the Anderson-Rubin (AR) test, reported at the bottom of the column, confirm that the estimated result remains significant even in the presence of weak instruments. The corresponding IV estimate for males, shown in column 2, is slightly smaller at 0.76 standard deviations and remains significant at the ten percent level (*p*-value = 0.076). However, the AR test statistic is now just beyond the bounds of conventional levels of significance with a *p*-value of 0.14. In contrast, the IV estimate for females, presented in column 3, is notably larger but statistically insignificant. The large standard error reflects the weak first-stage relationship, which limits the precision and reliability of the estimate.

5.3. **Robustness.** To interpret these results as causal, the instrument must not directly affect the dependent variable beyond its influence through the endogenous regressor (the exclusion restriction). That is, the IV strategy could be compromised if factors other than claiming connect the last wave surfed to the final score. Two concerns stand out. First, wave quality may systematically vary near the end of a heat—if higher-quality waves are more likely then and surfers anticipate this, the "last wave" might not be random with respect to wave quality. Second, heat dynamics could lead judges to pay greater attention to the final wave, influencing scores independently of claiming. To evaluate these potential violations of the exclusion restriction, we regress the awarded score on whether the wave was the last surfed and the total number of waves in a heat, controlling for the full set of covariates and the claiming indicator. Table 7 presents the results for the combined sample and the subsamples by gender. Overall, there is no statistically significant relationship between either the last wave or the total number of waves and the final score, independent of claiming. Most coefficients are negative and indistinguishable from zero. The only exception is a small, positive significant effect of the total number of waves for the female subsample. Although we cannot categorically rule out violations of

<sup>&</sup>lt;sup>3</sup>Andrews et al. (2019) find that conventional *t*-tests perform reasonably well in specifications with an average effective F-statistic larger than 10, which is close to our value, even in overidentified, heteroskedastic settings.

the exclusion restriction, these findings provide greater confidence that we are identifying a causal relationship between claiming and judged performance.

### 6. DISCUSSION

The non-verbal, post-performance "claiming" of a wave in professional surf contests offers a realworld illustration of self-promotion. With significant stakes at play—including event prize money, sponsorships, and potential reputational costs—professional surfers must carefully decide whether to claim a wave. A fist pump or other celebratory gesture is performed in front of judges before they submit their scores, thus potentially influencing evaluations of the observed performance. Although contest judging criteria are formally outlined, the scoring of a wave remains inherently subjective. Our main question is whether this form of non-verbal self-promotion pays off in high-stakes international surf competitions.

In theory, claiming in surfing may reflect two behaviors: (1) a spontaneous, genuine reaction signaling the surfer's perception of an exceptional performance, or (2) a deliberate, strategic action intended to sway judges (Furley et al., 2020). The latter aligns with self-promotion, conceptualized as highlighting one's competence or achievements to influence observers' perceptions (Jones and Pittman, 1982). Our empirical objective is to distinguish these behaviors using data from over 5,500 waves in the World Surf League (WSL) Championship Tour. Several observations hint that claiming may be partly strategic. First, claims are relatively rare ( $\sim 5\%$  of all waves) and vary in intensity, suggesting that surfers do not claim lightly. Second, men are seven times more likely to claim than women, signaling a pronounced gender dimension. Third, the likelihood of claiming rises as stakes increase: in later rounds of events and on the final wave of a heat. We exploit this last observation in our identification strategy.

Our first estimation approach compares claimed versus non-claimed waves within the same surfer and the same thirty-minute heat. This within-surfer, within-heat design mitigates confounding factors that could otherwise correlate with both performance and claiming behavior (e.g., wave conditions, surfer ability, style, or claiming preferences). After further controlling for key performance indicators (such as wave completion or a closing maneuver), we find that claiming is associated with an increase of over one standard deviation in the judged wave score. Notably, this effect is nearly identical for men and women, suggesting no systematic gender bias in judges' responses to a claim once it is made. Whilst our results are robust even under significant selection on unobservables, there remains the potential concern of unobserved heterogeneity—surfers might claim after especially highperformance on the wave that we cannot fully account for.

To address this possible bias we leverage arguably more exogenous variation in claiming behavior driven by the last surfed wave of the heat. This strategy is motivated by the fact that surfers are more likely to claim on the last wave in a last ditch attempt to influence judges and that the last wave of the heat is less open to selection bias due to the time pressures of the heat and random variation of the ocean. We allow further for the effect of claiming induced by the last wave surfed of the heat to vary with the round of the event. Using this in an instrumental variables (IV) framework, we again find a strong positive effect of claiming on scored performance—around 0.8 standard deviations. This IV result is roughly 30% smaller than the original OLS estimate, suggesting that some of the OLS association may indeed be driven by unobserved wave quality. Nevertheless, the IV effect remains economically and statistically significant, translating to a roughly 1.6-point (or 40%) increase in wave score.

Our findings complement prior experimental work by Furley et al. (2020), who show that claiming in surfing biases judgment. Their estimated effect sizes (roughly 0.25 points) are considerably smaller than the real-world estimates documented here. As the authors note, online experiments may struggle to replicate the dynamic, high-stakes environment of live competition. Our results suggest that strategic self-promotion may yield larger effects under actual contest conditions. In emphasizing non-verbal cues, our study builds on earlier experimental results to highlight potential biases in performance assessments in professional surf contests. Even trained judges, evaluating on technical criteria, seem to be strongly influenced by a surfer's display of confidence or excitement. The result is somewhat surprising as judges have complete information on performance in real-time, which contrasts with other studies in the self-promotion literature (Exley and Kessler, 2022). Because subjective judging is central to competition outcomes, our results underscore the need for training programs to mitigate such biases, perhaps through video-based instruction that sensitizes judges to the influence of celebratory gestures.

From a broader perspective, our results demonstrate how self-promotion can influence evaluative outcomes, even among experienced professionals in top-tier contests. While the surfing domain is unique, similar implications likely hold for labor markets and other competitive settings where individuals can strategically signal their strengths. Notably, although female surfers are much less likely to claim a wave, our results suggest they benefit as much as men do on the rare occasion they claim. This pattern aligns with a broader literature showing that women often engage in less self-promotional behavior, possibly due to social norms, perceived backlash, or lower subjective confidence (Mancuso et al., 2017; Exley and Kessler, 2022). Surfing has historically been a male-oriented domain, and women have long struggled for equal opportunities and prize money. These norms may partly explain the pronounced gender gap in claiming, though it may also reflect women's systematically lower self-assessments of performance or self-esteem (confidence) (Exley and Kessler, 2022; Croson and

Gneezy, 2009; Niederle and Vesterlund, 2011). Future research should explore these mechanisms to inform interventions aimed at reducing the gender gap in self-promotion within professional sports.

Our findings indicate that because female surfers who do claim receive a comparable boost in scores, more frequent claiming could, in principle, help maximise scoring potential. However, because female surfers rarely claim, the corresponding IV estimates for women alone cannot be reliably estimated, and so the OLS results should not be interpreted as strictly causal. Additionally, related research on negotiations shows that pushing women to negotiate more may not always yield better outcomes (Exley et al., 2020). Similarly, female surfers might do best by claiming selectively—when the perceived payoff is high—rather than feeling pressured to adopt a universally more assertive style.

A final consideration is the potential reputational cost of claiming over the longer term. Our results are limited to close to one year of CT competition. If surfers repeatedly claim waves over the course of their career, they might ultimately be penalized by judges who see the gesture as manipulative. For instance, studies in other sports including soccer and basketball have shown that deception strategies can initially be beneficial but result in later punishments (Sabag et al., 2020; Morgulev et al., 2014). Investigating these dynamic effects over time remains a promising avenue for future research. Relatedly, future studies could examine how claiming influences outcomes beyond the judged wave score (e.g., sponsorship deals, social media following, or broader fan support). Overall, our results point to the powerful role of self-promotion in shaping high-stakes performance evaluations and highlight the strong gender norms in self-promotion behaviours in professional surfing.

#### 7. CONCLUSION

This paper contributes to the self-promotion literature by providing causal evidence on the returns to a clear, observable form of signaling in a high-stakes context. We find that "claiming" a wave leads to significantly higher judged scores in professional surfing contests. Trained judges—who ostensibly rely on strict technical criteria—appear strongly influenced by a surfer's display of confidence or excitement. This is particularly notable given that judges have full, real-time information on each surfer's performance, in contrast to self-promotion scenarios where evaluators may lack complete insights. Our results carry important implications for the training of judges in international surf contests. By extension, organizations that rely on subjective evaluations might consider how strategic signaling and subtle self-promotional behaviors can tip the scales of performance judgments. Increased awareness of these behaviors could encourage more standardized and transparent evaluation processes aimed at mitigating bias.

In addition, we find that female professional surfers claim much less often than their male counterparts but benefit roughly equally when they do claim. Whilst the gender gap in self-promotion has been established in multiple other studies, and particularly in traditionally male-oriented domains like surfing, our result suggesting that the performance evaluation bias as a consequence of self-promotion behaviour does not vary systematically with gender represents a new finding in the literature. Studies have generally found that women who engage in self-promotion or exhibit counterstereotypical behavior often face the risk of social or professional reprisals. Our results from the world of competitive surfing highlight the possibility that women may be forgoing meaningful gains by underutilizing self-promotion strategies. It is important to caveat our findings relate to the high-stakes competitive world of professional sport and may not generalise to labour markets or other settings.

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TABLE 1.	Descriptive	Statistics
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	All	Male	Female	Difference
	(1)	(2)	(3)	(4)
Wave score	4.193	4.158	4.278	-0.120**
	(2.07)	(2.14)	(1.92)	
Claim	0.054	0.070	0.014	0.056***
	(0.23)	(0.26)	(0.12)	
Mild claim	0.012	0.015	0.003	0.012***
	(0.11)	(0.12)	(0.06)	
Moderate claim	0.026	0.034	0.007	0.027***
	(0.16)	(0.18)	(0.09)	
Strong claim	0.015	0.021	0.003	0.017***
	(0.12)	(0.14)	(0.06)	
Finished wave	0.719	0.704	0.755	-0.051***
	(0.45)	(0.46)	(0.43)	
Final manoeuvre	0.293	0.283	0.319	-0.036***
	(0.46)	(0.45)	(0.47)	
Surfer-wave observations (N)	5,553	3,938	1,615	

*Notes:* Standard deviations are in parentheses. Column (4) is the difference (Men minus Women). \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

	(1)	(2)	(3)	(4)
	(1)	(2)	(3)	
Claim	1.462***	1.457***	1.481***	1.080***
	(0.056)	(0.056)	(0.056)	(0.049)
Event (ref: Hossegar)		0 102***	0 170***	0 420***
J-Bay		0.493***	$0.4/9^{***}$	$0.430^{***}$
17		(0.048)	(0.049)	(0.043)
Keramas		$0.248^{***}$	$0.277^{***}$	$0.1/8^{***}$
Maari		(0.048)	(0.049)	(0.043)
Maui		(0.072)	$(0.205^{**})$	$0.2/0^{33}$
Managenet Dissen		(0.073)	(0.081)	(0.071)
Margaret River		$(0.498^{****})$	$(0.483^{****})$	$0.303^{****}$
Danisha		(0.048)	(0.049)	(0.043)
Femche		(0.045)	(0.045)	-0.032
Dipolino		(0.043)	(0.040)	(0.040)
Fipeline		-0.049	-0.045	(0.059)
Pio		(0.030) 0.120***	(0.000) 0.124**	(0.033)
KIO		(0.047)	$(0.124)^{1}$	(0.039)
Teahuno		(0.047) 0.267***	0.049)	(0.043)
Teanupo		(0.053)	(0.056)	(0.034)
Round (ref. 1)		(0.055)	(0.050)	(0.0+)
2		0 074	0 141***	0 152***
2		(0.074)	(0.049)	(0.043)
3		-0.042	-0.076**	0.024
5		(0.033)	(0.033)	(0.029)
4		0.125***	0.141***	0.221***
		(0.046)	(0.048)	(0.042)
Ouarter-final		0.293***	0.204***	0.323***
		(0.049)	(0.050)	(0.044)
Semi-final		0.204***	0.079	0.205***
		(0.064)	(0.066)	(0.057)
Final		0.367***	0.181**	0.301***
		(0.086)	(0.088)	(0.077)
Completed wave				0.643***
-				(0.027)
Completed final maneuvre				0.588***
-				(0.028)
Heat FFs	No	Vec	Vec	Ves
Surfer FFs	No	No	Vec	Vec
	110	110	105	105
Ν	5553	5553	5553	5553
$R^2$	0.109	0.160	0.155	0.365
Oster ( $\delta$ )		10.818	10.020	3.942

TABLE 2. OLS Estimates of Claiming on Wave Score

*Notes*: Standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

	(1)	(2)	(3)	(4)
Claim intensity (Ref: none)				
Mild	1.277***	1.308***	1.305***	0.914***
	(0.118)	(0.115)	(0.115)	(0.100)
Moderate	1.344***	1.335***	1.373***	0.939***
	(0.079)	(0.077)	(0.077)	(0.068)
Strong	1.804***	1.786***	1.808***	1.454***
	(0.103)	(0.101)	(0.101)	(0.088)
Completed wave				0.643***
				(0.027)
Completed final maneuvre				0.590***
-				(0.028)
Event/round/heat FEs	No	Yes	Yes	Yes
Surfer FEs	No	No	Yes	Yes
Ν	5553	5553	5553	5553
$R^2$	0.111	0.162	0.157	0.368

TABLE 3. OLS Estimates of Claiming on Wave Score, by Intensity of Claim

*Notes*: Standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Gender
by
Score,
Wave
on
Claiming
of
Estimates
LS
0
TABLE 4.

		Μ	ale			Fen	nale	
	(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)
Claim	1.505***	1.495***	1.492***	1.066***	1.368***	1.348***	1.348***	1.044***
Completed wave	(000.0)	(600.0)	(600.0)	(7000) (2000)	(061.0)	(161.0)	(161.0)	(0.170) 0.488*** 0.050)
Completed final maneuver				(0.034)				(0.048) $0.623^{***}$ (0.048)
Event/round/heat FEs	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Surfer FEs	No	No	Yes	Yes	No	No	Yes	Yes
Ν	3938	3938	3938	3938	1615	1615	1615	1615
$R^2$	0.140	0.192	0.190	0.401	0.030	0.092	0.092	0.289
Notes: Standard errors in parenthe	eses. * p<0.1,	** p<0.05, *:	** p<0.01.					

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	(1)	(2)
Last wave	0.048***	0.005
	(0.008)	(0.014)
Round (Ref: 1)		
2	0.017	0.016
	(0.012)	(0.012)
3	0.055***	0.043***
	(0.008)	(0.008)
4	0.078***	0.062***
	(0.011)	(0.012)
Quarter-final	0.052***	0.039***
	(0.012)	(0.013)
Semi-final	0.052***	0.056***
	(0.016)	(0.017)
Final	0.102***	0.092***
	(0.021)	(0.022)
Last wave x Round interactions		
2		0.007
		(0.029)
3		0.079***
		(0.021)
4		0.106***
		(0.029)
Quarter-final		0.081***
		(0.030)
Semi-final		-0.028
		(0.038)
Final		0.063
		(0.056)
Completed wave	0.049***	0.049***
	(0.007)	(0.007)
Completed final maneuvre	0.066***	0.065***
	(0.008)	(0.007)
Ν	5553	5553
$R^2$	0.065	0.070

TABLE 5. Effect of Last Wave on Claiming

*Notes*: OLS estimates of last wave on claiming using full set of controls in equation (1). Event, heat and individual surfer fixed effects are omitted from the table. Standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

	A	11	Ma	le	Fem	ale
	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)
Claim	1.080***	0.776*	1.066***	0.758*	1.044***	1.677
	(0.049)	(0.458)	(0.052)	(0.429)	(0.170)	(1.948)
N First-stage F-statistic Weak IV test (AR, $\chi^2$ )	5553	5553 9.22 17.13**	3938	3938 8.36 10.93	1615	1615 1.99 8.66

TABLE 6. IV Estimates of the Effect of Claiming on Wave Score

*Notes*: Standard errors are in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

	А	.11	Male		Female	
	(1)	(2)	(3)	(4)	(5)	(6)
Claim	1.067*** (0.169)	1.028*** (0.169)	1.072*** (0.052)	1.074*** (0.053)	1.067*** (0.169)	1.028*** (0.169)
Last wave	-0.009 (0.054)		-0.047 (0.036)		-0.009 (0.054)	
Wave number		-0.000 (0.004)		-0.007 (0.005)		0.020** (0.009)
$\frac{N}{R^2}$	5553 0.365	5553 0.365	3938 0.401	3938 0.401	1615 0.280	1615 0.282

TABLE 7. Robustness Checks

*Notes*: All specifications include the full set of controls in equation (1). Standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### Appendix

	M	ale	Fen	nale
	(1)	(2)	(3)	(4)
Last wave	0.060***	0.001	0.022***	0.024*
	(0.011)	(0.019)	(0.008)	(0.015)
Round (Ref: 1)				
2	0.026	0.022		
-	(0.016)	(0.017)		
3	0.075***	0.058***	-0.003	0.001
	(0.011)	(0.012)	(0.011)	(0.012)
4	0.090***	0 073***	0.009	0.009
•	(0.013)	(0.014)	(0.008)	(0.009)
Quarter-final	0 070***	0.053***	0.018*	0.015
	(0.018)	(0.033)	(0.010)	(0.013)
Semi-final	0 074***	0.081***	0.016	0.014
Senii Iniai	(0.071)	(0.021)	(0.013)	(0.014)
Final	0 130***	0.116***	0.038**	0.046**
1 11101	(0.032)	(0.033)	(0.017)	(0.040)
Last wave x Round interactions	× ,	· /	~ /	· /
2		0.023		
2		(0.023)		
3		0.111***		-0.031
5		(0.028)		(0.029)
Δ		0.108***		(0.027)
-		(0.034)		(0.02)
Quarter final		(0.034) 0.113**		(0.020)
Quarter-Illiai		(0.046)		(0.025)
Sami final		(0.040)		(0.023)
Semi-mai		(0.050)		(0.021)
Final		(0.039) 0.172*		(0.031)
Filial		(0.098)		-0.039
		(0.088)		(0.044)
Completed wave	0.062***	0.060***	0.006	0.006
	(0.010)	(0.010)	(0.007)	(0.007)
Completed final maneuvre	0.089***	0.089***	0.020***	0.021***
	(0.010)	(0.010)	(0.007)	(0.007)
Ν	3938	3938	1615	1615
$R^2$	0.085	0.091	0.023	0.025

TABLE A1. Effect of Last Wave on Claiming, by Gender

*Notes*: OLS estimates of last wave on claiming using full set of controls in equation (1). Event, heat and individual surfer fixed effects are omitted from the table. Standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.