

# A PRELIMINARY ANALYSIS OF THE RANKING PATHWAY DIFFERENCES BETWEEN SUCCESSFUL AND LESS SUCCESSFUL PROFESSIONAL FEMALE GOLFERS

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## Introduction

Golfers competing on professional tours are ranked on the Official World Golf Rankings (OWGR) for men, and the Women's World Golf Rankings (WWGR) for women. Ranking results are important for evaluating the success of an elite golfer's competitive career and to qualify for the most lucrative golf tournaments, including the Olympic Games. National Sport Organisations (NSOs) are aware that government funding is also connected to its athletes' performance success, with more funding available to programs that produce more successful athletes. To produce top-ranked golfers, NSOs often make investments into Athlete Identification and Development (AID) programmes. These programmes seek to optimize the development process by providing athletes with the appropriate resources to accelerate their learning and performance. NSO budgets allow for a limited number of developmental resources and therefore only a small sample of athletes may be selected. Utilizing effective selection methods may help identify the most talented athletes, giving NSOs the ability to direct resources to athletes who demonstrate the highest potential for future elite outcomes. However, there is limited peer-reviewed knowledge regarding the ranking trajectories that elite golfers – specifically female professional golfers – take to the upper echelons of the rankings. Koenigsberg, Pilgrim, and Baker (2022b) examined the ages at which male professional golfers from different peak ranking groups (i.e., top 10, 11-20, 21-50, 51-100, 101-200, and 301-500) reached ranking milestones. Results showed players who reached higher peak rankings (e.g., top 50) had significantly different ranking trajectories than players who reached lower peak ranking groups (e.g., top 301-500). The Koenigsberg et al. (2022a) study noted that top 100 ranked professional female golfers follow different ranking trajectories than males, thus separate analyses must be conducted to inform female AID and selection activities. The aim of this study was to investigate the discriminatory potential of female professional golf ranking milestones.

## Methods

The names and peak career rankings of players were retrieved from WWGR lists from 2007 to 2019. Players' date of birth was retrieved from the public domain. For inclusion into the final sample, players must have reached the Top 500 in the WWGR at some point in their career and be >27 years of age as of December 31<sup>st</sup>, 2019. The target sample of players were assigned to one of six groups according to their peak WWGR, 1-50 (n = 41), 51-100 (n = 44), 101-200 (n = 64), 301-300 (n = 88), or 301-500 (n = 222). Data was also compiled on the date that players reached career ranking milestones. Ranking milestones were based on previous benchmarking work in golf (Koenigsberg et al., 2020) and included the date of first WWGR, top 1000, 750, 500, 400, 300, 200, 100, and 50. These dates were then used to calculate players' chronological age at each milestone. The ages at which players declared professional status were also calculated. The analyses aimed to compare the ranking pathways of players from different peak ranking groups. To test for differences in ranking pathways between regions, multiple one-way analysis of variance tests were performed on all dependent variables (p < 0.01). Where a significant main effect was found, post-hoc comparisons using Tukey's approach were performed. Effect sizes were calculated for each pair-wise comparison to confirm results of the post-hoc comparisons.

## Results and Discussion

Players from the Top 1-50 and 51-100 groups reached early ranking milestones (i.e., first WWGR to Top 500) at significantly younger ages than all other ranking groups (i.e., Top 101-200, 201-300, and 301-500). Further, players from the Top 101-200 group received their first WWGR, and reached the Top 1000, 750, and 500 at significantly younger ages than Top 301-500 ranked players. Players from the top 1-50 and 51-100 groups also reached the top 400 and 300 milestones at earlier ages than top 101-200 and 201-300 players and reached the top 200 milestone at earlier ages than top 101-200 players. Overall, these results indicate female professional golfers who attain higher (i.e., better) career peak rankings display significantly different ranking trajectories than less successful players. These findings are consistent with previous research in men's golf and men's and women's tennis, as it has been found that ranking trajectories differ between peak ranking groups. More specifically, higher ranked players reach ranking milestones at significantly younger ages than their lower ranked counterparts (Koenigsberg et al. 2022b; Li et al. 2020). These findings suggest that WWGR data may be used as an indicator of future elite professional success in women's golf.

## Significance

The current findings suggest WWGR data may be used to guide selection in golf AID programmes. However, it must be noted that rankings are only one variable and selection decisions should be made using multiple data sources together with expert knowledge. Future research should seek to employ both quantitative and qualitative methods to investigate a broader range of potential discriminatory variables for the achievement of elite success in women's professional golf. Nonetheless, the current research begins to offer additional data to increase the accuracy of athlete selections in this sport.