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Goal Setting and Goal Achievement in Marathon and Half-Marathon Runners

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INTRODUCTION

- Goal-setting in sports provides multiple benefits. These include overcoming fear of failure (Wikman, Stelter, Melzer, Hauge, & Elbe, 2014), performing better in both training and competition (Filby, Maynard, & Graydon, 1999), and increasing motivation (Sullivan & Strode, 2010). Marathon runners and half-marathon runners are included among the benefactors of goal-setting.
- In this study, runners in the Utah Valley Marathon filled out a pre-race survey, which included their expected time for the race and their goal time. We noted that there was often a difference between the two. We hypothesized that this difference, which we called goal specificity, would predict finish time and goal achievement.
- We operationally defined goal achievement as the difference between runners' goal time and actual time.
- We also hypothesized that experience (number of previous marathons, training miles per week, and longest training run), confidence, motivation for running (competition and/or personal goal achievement) would predict goal specificity, finish time, and goal achievement.

METHOD

MEASURES

- *The Motivation of Marathoners Scale (MOMS)*: 18 questions designed to determine the motives of participants and how intensely they are motivated by those motives (Ogles, 2016).
- *Performance Anxiety Scale (PAS)*: 20 questions designed to assess cognitive anxiety, somatic anxiety, and confidence (Ogles, 2016).

PROCEDURE

- Runners in the Utah Valley Marathon were invited to participate in the study through an email from the race director containing a link to a pre-race web survey. The email was sent 11 days prior to the race.
- The pre-race questionnaire stated that there would be a follow-up survey after the race.
- At the conclusion of the race, runners were emailed again with a link to a short post-race web survey.
- Participants were incentivized with the opportunity to win one of 200 \$10 Amazon gift cards.

ANALYSIS

- We conducted 3 hierarchical regression analyses predicting goal specificity, goal achievement, and finish time for marathoners and half-marathoners, respectively.
- To predict goal specificity, independent variables included the experience variables in Step 1, confidence in Step 2, and the motivation variables in Step 3.
- We used the same independent variables to predict goal achievement and finish time, but also added goal specificity in Step 4.

Table 1: Full-Marathon

	Goal Specificity ¹	Goal Achievement ²	Finish Time ³
Model	Sig. F Change	Sig. F Change	Sig. F Change
Experience	.276	.491	.000**
Confidence	.497	.434	.274
Motivation	.757	.502	.000**
Goal Specificity		.000**	.068

* $p \leq 0.05$; ** $p \leq 0.01$. ¹Overall model $R^2 = .03$; $F = .83$; $p = .57$. ²Overall model $R^2 = .62$; $F = 32.10$; $p < .000$. ³Overall model $R^2 = .37$; $F = 11.87$; $p < .000$.

Table 2: Half-Marathon

	Goal Specificity ¹	Goal Achievement ²	Finish Time ³
Model	Sig. F Change	Sig. F Change	Sig. F Change
Experience	.015*	.084	.000**
Confidence	.583	.215	.147
Motivation	.480	.617	.001**
Goal Specificity		.046**	.045*

* $p \leq 0.05$; ** $p \leq 0.01$. ¹Overall model $R^2 = .10$; $F = 1.91$; $p = .074$. ²Overall model $R^2 = .11$; $F = 1.95$; $p = .07$. ³Overall model $R^2 = .33$; $F = 7.90$; $p < .000$.

PARTICIPANTS

- There were 286 participants between 18 and 78 years of age who had registered to compete in the Utah Valley Marathon (148) or half-marathon (138).
- Included in the study were those who completed both the pre- and post-race surveys in their entirety
- A majority of participants were female (59.1%), and most identified as Caucasian (92.2%).

RESULTS

- We found that goal specificity predicted finish time and goal achievement for both marathon and half-marathon runners, with one exception. It did not predict finish time for marathon runners, though it was close to predictive. None of the other variables predicted goal achievement.
- Experience predicted goal specificity in half-marathon runners.
- Experience and motivation for running predicted finish time in both marathon and half-marathon runners.

DISCUSSION

- Some of the results of the study were not surprising. We fully expected that experience and motivation for running would predict finish time. The fact that confidence did not add any significance was surprising.
- Also surprising was the finding that none of our variables predicted goal achievement except goal specificity.
- Another finding was that experience predicted goal specificity for half-marathon runners, but not for marathon runners. The reason for that could be because there is a wider variety of experience in the half-marathon group, both beginners and more experienced runners. In contrast, most marathoners are more experienced.
- The most relevant finding to us was that goal specificity predicted finish time for half-marathon runners. It was close enough to predictive of finish time for marathon runners that it deserves attention.
- Runners can apply this by setting a finish time goal that is close to what their expected finish time is. Setting a goal that is just a little beyond what they expect to get could push them to run faster.
- However, these findings are preliminary. Further research should be done in order to determine how specific goals should be. Is it better for the expected time and goal time to be the same time or is it better to set a goal that is just a little faster or slower than the expected time? Are there other variables that should be considered? The answers to these questions could help runners better prepare for races.

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