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The Development and Validation of the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf – a Delphi Study

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The purpose of this study was to gain a better understanding of the past research that has been conducted on pre-shot routines in golf via a thorough review of the literature. From this review, the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf was developed and assessed among college golf coaches in the United States. A total of 36 college golf coaches working at the NCAA Division I level participated in a two-round Delphi study to validate the usefulness and future utility of the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf. The usefulness of the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf was validated by achieving a 72.73% consensus agreement level among study participants. Five out of the six steps of the model achieved a 100% consensus agreement rate as to their usefulness outside of Step 4, which received a 90% usefulness agreement rate. The researchers were unable to reach adequate levels of expert consensus amongst college golf coaches working at the NCAA Division I level about the future utility of the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf in their golf instruction. However, it was found that future utilization rates of the model may increase if the designer of the model were to provide educational sessions to college golf coaches and members of their college golf team.

Significant research has been conducted on the potential performance benefits golfers experience when utilizing pre-shot routines in golf. For nearly 40 years, researchers and practitioners have been studying the pre-shot routine processes of golfers of all ability levels, which has led to a better understanding of the necessary elements that should be included in a golfer's pre-shot routine. Crews and Boucher (1986a, 1986a), through observation, confirmed that professional golfers typically use a waggle to get them into proper alignment to hit their shots. Cohn et al. (1990) found that the physical aspect of waggling multiple times was common among high performing golfers, and they deemed the waggle important in getting golfers properly aligned.

Moore and Stevenson (1994) developed a three-step routine for improved golf performance that included, 'check it out', 'click it in', and 'let it go'. Findings on a performer's ability to focus attention were studied by Harle and Vickers (2001) and reducing the unraveling of automaticity by Beilock and Carr (2001) and Beilock et al. (2002).

Douglas and Fox (2002) argued that to reach peak levels of performance, golfers must remain committed to performing a pre-shot routine on every shot, regardless of the situation. Shaw (2002) studied the pre-shot routine development with a professional golfer. He did not, however, focus on the process that the golfer utilized to develop the routine nor the golfer's perception of the function and composition of the pre-shot routine. Van der Lei (2010) studied the attentional and affective states of golfers during practice. Findings revealed distinguishable and idiosyncratic affect-related performance zones associated with physiological and introspective measures for each of the three golfers he studied.

Yancey et al. (2011) interviewed eight professional golfers when conducting pre-shot routines to assess the "lived experiences" during the pre-shot routine. They identified three major themes, maintaining focus, the physical aspects of the routine, and the shot type. They also identified sub-themes for each major theme such as focusing on the specific target, internal imagery, and maintaining consistency. Where golfers stood during the routine, the number of practice swings, consistency of use, and external visualization were also identified as important physical aspects of a routine. Zienius et al. (2015) assessed the total time taken and heart rate changes of golfers during pre-shot routines. They found that pre-shot routines for tee shots were significantly longer than those of approach shots and that heart rate increased significantly from the start to end of pre-shot routines for tee and fairway shots with the number of practice swings having the strongest relationship.

Cotterill et al (2014) reported that no individual pre-shot routine model had been developed that had been universally adhered to. Further, they suggested the need to develop a template "working at the psychological level" that underpins the routines in golf and allows golfers to naturally develop their own pre-shot routines within these psychological constructs or principles. Noted golf sport psychologist Bob Rotella suggested that a pre-shot routine does not need to be elaborate, but that it should be the same, that is, repeatable (Gorant, 2021). Having a repeatable routine, process, and swing allows players to go into automatic mode during challenging moments.

STOP S.L.O.W. GO Pre-Shot Routine Model for Golf

Based upon this suggestion for future research and to develop a universally accepted pre-shot routine model for golf; these authors set out to develop a new pre-shot routine model that was informed by a review of previous research (Boutcher & Crews, 1987; Cohn et al., 1990; Cotterill et al., 2014; Eysenck et al., 2007; Farahat et al., 2004; Jackson, 2001; Land et al., 2014; Moore & Stevenson, 1994; Pilgrim et al., 2018; Shaw, 2002; Wulf et al., 1999; Yancey et al., 2011) and allowed golfers to naturally develop their pre-shot routines within the psychological constructs that have been found to benefit golf performance. This review resulted in the initial development of the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf (STOP S.L.O.W.

Table 1. The Six Steps in the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf (Initial Version)

Step	Name	Details
1	Stop (mental trigger)	Stop everything you are thinking about and focus on your next golf shot
2	Strategy (game planning)	Plan out the shot you want to hit and select an intended target
3	Look (visualization)	Visualize the flight that the golf ball will take to reach your intended target
4	Outline (motor programming)	Outline the golf swing you will use for the flight you have visualized
5	Waggle (proper alignment)	Approach the ball and waggle your body into alignment
6	Go (execution)	Repeat the golf swing you have outlined to accomplish the ball flight you desire

GO Routine) featured in Table 1. Each step of this six-step model features important aspects of pre-shot routines that have been found to demonstrate performance benefits when utilized in a golfer's pre-shot routine.

Step 1: STOP (Mental Trigger)

Step 1 of this six-step model cues the golfer to stop thinking about task-irrelevant information and begin to focus their conscious attention on the task at hand. The utilization of the word 'stop' serves as an important attentional cue (or more often referred to as a *mental trigger*) that a golfer can utilize to begin the process of focusing on the task at hand and discontinue the process of mind wandering (Boutcher & Crews, 1987).

Mind wandering is defined as a time of stimulus-independent thought that golfers may experience throughout a golf round that can be detrimental to performance (Mason et al., 2007). Jackson (2001) suggested that pre-shot routines can help cue well-learned movements and prevent the performer from focusing on task-irrelevant thoughts that can be detrimental to performance and induce anxiety-reactive choking.

Step 2: STRATEGY (Game Planning)

The letter S in S.L.O.W. stands for strategy. Upon focusing the conscious mind on the task at hand, the next step in the STOP S.L.O.W. GO Routine suggests that golfers develop a strategy (or goal-directed attention) toward the shot at hand. Davies et al. (2014) suggested that elite golfers not only develop a strategy when they arrive at their next shot, but they often plan out their shots and the locations they will be hitting before the start of the round. Valiante (2005) suggested that golfers benefit when taking "fearless golf swings at precise targets" and that target selection is paramount in the process of executing successful golf shots and helping to eliminate anxieties that may be caused by task-irrelevant thoughts.

After selecting a proper target based on a golfer's scoring objectives, a golfer must then assess the distance and select a golf club to use for the shot based on the target selection and associated distance. With golfers being allowed to carry up to 14 different golf clubs in their bag, many times a golfer is faced with multiple club selection options to help them achieve a desired outcome. Matching the club selection in relation to the proper target location is critical in this process.

Step 3: LOOK (Visualization)

The letter L in S.L.O.W. stands for look. After selecting a proper target strategy and club selection for the shot at hand, the next step in the STOP S.L.O.W. GO Routine suggests that golfers visualize the look of their next shot from its existing lie to the target location. Multiple articles have professed the performance benefits of imagery in sport (Martin et al., 1999) with some research going as far as to suggest that imagery should be treated similarly to practice given its functional equivalence (Hall, 2001) and that autonomic responses during motor imagery parallel the autonomic responses to actual motor activities (Decety, 1996). Imagery has been shown to provide benefits in both full swing and putting performance in golf (Bell et al., 2009). The idea behind the utilization of imagery is to draw an imaginary line of flight that the ball may take toward the target location based on the club that is selected and the force that will be put into the swing.

Step 4: OUTLINE (Motor Programming)

The letter O in S.L.O.W. stands for outline. Once a shot has been successfully visualized in the mind's eye and correlated with the target and club selection, the next step in the STOP S.L.O.W. GO Routine suggests that golfers outline the preferred motor pathway of the desirable golf shot via deliberate practice swings. Visual imagery coupled with kinesthetic imagery has been shown to have significant performance benefits on basic movement patterns (Farahat et al., 2004) along with those in golf (McBride & Rothstein, 1979). This combination of visual imagery with correct kinesthetic awareness is suggested to be highly important in golf, where successful repeated golf swings require a kinesthetic awareness of where the club's face is in space (Knight, 2004; Pelz & Frank, 1999).

Research has also shown that what an individual focuses on and diverts their attention toward can have a major impact on motor performance (Beilock et al., 2002; Gray, 2004; Jackson et al., 2006; Wulf, 2007). Furthermore, what an individual focuses on during the execution of a motor task can greatly influence the quality and accuracy of movement (Land et al., 2014). According to Land et al. (2014), it has been demonstrated that an individual's focus of attention (more specifically that of an external focus of attention) can lead to greater accuracy in performance (Wulf et al., 1999, 2001) and better performance outcomes (McNevin et al., 2003). By matching the imagery of the desired shot to the physical actions of the golf swing, it is proposed that a golfer should be able to produce the desired outcome by simply repeating the coordinated motor programming when undergoing the process of hitting the golf shot.

Step 5: WAGGLE (Alignment)

The acronym for the letter W in S.L.O.W. stands for waggle. Upon a shot being visualized and the motor pattern internalized to perform the desired outcome, it has been suggested for golfers to waggle their body

Table 2. Alignment of the STOP S.L.O.W. GO Steps and Attentional Control Theory

Step	Relevant ACT principle	Attentional system
Stop	Salient cue: Mental trigger	Stimulus-driven
Strategy	Specific goal: Game planning	Goal-directed
Look	Specific goal: Visualization	Goal-directed
Outline	Specific goal: Motor programming	Goal-directed
Waggle	Specific goal: Alignment	Goal-directed
Go	Salient cue: Execution	Stimulus-driven

into a comfortable and aligned position over the ball before starting the swing. Yancey et al. (2011) discovered that professional golfers tend to have a consistent pattern to their pre-shot routines that include waggles and other tactics to get set up in the proper alignment and positioning. Crews et al. (1986a) further confirmed through observation that professional golfers commonly will utilize a waggle to get them into the proper alignment position to hit the desirable shot. The physical aspect of waggling multiple times was also revealed in a study conducted by Cohn et al. (1990) among high-performing golfers and has been deemed important in getting golfers properly aligned to execute their planned golf shots.

Step 6: GO (Execution)

After the proper strategy has been put in place and the golfer has the patterned look and feel of the shot in their mind while in proper alignment, it is time to put all the pieces together and cue their body to go ahead and begin the actual swing. It is suggested that golfers use set cues within their pre-shot routine to assist with the temporal structure and rhythm of the golf shot (MacPherson et al., 2009).

Attentional foci are different at each stage of the pre-shot routine; however, it is highly important to have personalized cues when starting a new sequence of motor patterns (Bernier et al., 2011). For some golfers, this may be as simple as starting their swing with a forward press of the hands, whereas for others it may result in a variety of pre-set routines like regripping the club multiple times until the feel and programming of the swing is just right. During the process of making the swing, some golfers may also attend to pre-set positions in their body to ensure they will administer the proper swing force needed within their selected motor programming pathway. However, of primary importance during this stage is the simple execution of the imagery and motor programming that has been "dialed in" to produce the desired shot outcome.

Attentional Control Theory and Framework

The framework and steps of the STOP S.L.O.W. GO Routine were informed and constructed based upon elements of the Attentional Control Theory (ACT) (Table 2) that lends itself to potentially improved attentional control and task performance (Coombes et al., 2009; Eysenck et al., 2007).

The six steps included in the STOP S.L.O.W. GO Routine are built to be an ACT-informed methodology that works upon a golfer's stimulus-driven attentional system and goal-directed attentional system. The STOP step works on the stimulus-driven attentional system by providing a salient cue that shifts a golfer's focus from a state of stimulus-independent thought to a state of focus on the task at hand. Additionally, the steps of Strategy, Look, Outline, and Waggle work upon a golfer's goal-directed attentional system by providing a framework in which a golfer can attend to the goal of executing a successful golf shot. This is followed by the salient cue of GO which has the golfer initiate the swing they have programmed into both their mind and body. Combined, these steps provide an ACT-informed framework to assist in improving golf performance by focusing a golfer's thoughts on the task at hand and away from task-irrelevant thoughts (such as mind wandering) that may be detrimental to performance.

Although the STOP S.L.O.W. GO Routine provides many of the theoretical underpinnings that have been found to have performance benefits in pre-shot routines in golf, it has yet to be assessed by experts in the field concerning its potential usefulness and future utility in the field. As a result, this study set out to answer the following research questions.

Research Questions

Research Question 1: What aspects of the STOP S.L.O.W. Go Pre-Shot Routine Model for Golf achieve a level of consensus among collegiate-level golf coaches in the US as to its overall usefulness?

Research Question 2: How likely are collegiate-level golf coaches in the United States to utilize the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf in their golf instruction?

Methods

When seeking to validate a conceptual model based on feedback and input from experts in a given field, it is important to achieve a reasonable level of consensus among those experts. The Delphi technique is an effective and commonly used approach for such research problems (Bailey et al., 2019; Hasson et al., 2000; Hsu & Sandford, 2007; Okoli & Pawlowski, 2004; Pilgrim et al., 2018; Robertson et al., 2017). A Delphi study seeking expert consensus typically involves a multi-stage approach in which inquiries are sent to experts in rounds to gather information and attain areas of consensus (Kaynak & Macaulay, 1984). The rounds can continue (theoretically indefinitely) until a level of consensus is achieved (Iqbal & Pipon-Young, 2009). However, Petry et al. (2007) found that a two-round Delphi review is most suitable when there is a clear literature base to work from (such as the one that the STOP S.L.O.W. GO Routine was developed upon) and when the main objective of the study is to take an initial "temperature" of opinion on a topic.

Table 3. Questions Asked of Participants

1	Can you think of a better acronym than STOP S.L.O.W. GO that college golfers can utilize when conducting pre-shot routines in golf? Please describe the acronym you think works better than STOP S.L.O.W. GO for pre-shot routines in golf?
2	Can you think of a better pre-shot routine model than STOP S.L.O.W. GO that college golfers can utilize when conducting pre-shot routines in golf?
3	Please provide your suggestions on how Step 1 could be improved.
4	Please provide your suggestions on how Step 2 could be improved.
5	Please provide your suggestions on how Step 3 could be improved.
6	Please provide your suggestions on how Step 4 could be improved.
7	Please provide your suggestions on how Step 5 could be improved.
8	Please provide your suggestions on how Step 6 could be improved.
9	Please describe the current pre-shot routines you teach college golfers on your team.
10	Why do you not teach pre-shot routines to college golfers on your team?
11	Why would you be very likely to utilize the STOP S.L.O.W. GO pre-shot routine model in your college golf instruction?
12	Why would you likely utilize the STOP S.L.O.W. GO pre-shot routine model in your college golf instruction?
13	Why are you neither likely nor unlikely to utilize the STOP S.L.O.W. GO pre-shot routine model in your college golf instruction?
14	Are there any changes that could be made to the STOP S.L.O.W. GO pre-shot routine model that would make you very likely to utilize it in your golf instruction?
15	Why are you unlikely to utilize the STOP S.L.O.W. GO pre-shot routine model in your college golf instruction?
16	Are there any changes that could be made to the STOP S.L.O.W. GO pre-shot routine model that would make you very likely to utilize it in your golf instruction?
17	Why are you very unlikely to utilize the STOP S.L.O.W. GO pre-shot routine model in your college golf instruction?
18	Are there any changes that could be made to the STOP S.L.O.W. GO pre-shot routine model that would make you very likely to utilize it in your golf instruction?

Sampling Frame

To provide a means of consistency among experts in the field, collegiate-level golf coaches who were identified as men's and/or women's college golf coaches at the NCAA Division I level across the United States were selected as expert panelists for this study. These experts were identified by their listing in the *Ping College Golf Guide* (www.collegegolf.com) and were selected based on the level of golf knowledge required to hold these instructional positions at the highest level of competitive collegiate golf. In total, $N0 = 514$ collegiate-level golf coaches working at the NCAA Division I level were identified in this sampling frame as potential participants for the study.

Procedures

For this study, the survey instruments (Table 3) for each round were distributed via an online platform (Survey Monkey, www.surveymonkey.com). Round 1 consisted of questions 1-9 and round 2 consisted of questions 10-18. Online surveys are an effective mode of quickly distributing questionnaire forms to and gathering information from panels of experts (Iqbal & Pipon-Young, 2009). Invitations were distributed to members of the sampling frame via email.

Table 4. Partitioning Schema for Consensus Groupings of Response Options

Attitude Dimension	Positive	Neutral	Negative
Agreement	Strongly agree Agree	Neither agree nor disagree	Disagree
Usefulness	Extremely useful Very useful Somewhat useful	NA	Not so useful Not at all useful
Likelihood	Very likely Likely	Neither likely nor unlikely	Unlikely Very unlikely

Delphi studies require an initial consensus agreement level to be set. Recent studies with similar Delphi designs used two-thirds (67%) as the consensus criterion (Hasson et al., 2000; Pilgrim et al., 2018; Robertson et al., 2017). Since this was an exploratory pilot study, a slightly more stringent consensus agreement level of 70% was set as the target consensus rate.

Based upon the results of a given round, a subsequent round was deemed necessary if the target consensus agreement level of 70% was not met on any of the substantive evaluative questions (i.e., excluding the likelihood of future usage). In such instances, the survey instrument was updated accordingly based on the information collected from the previous round. All rounds had a duration of 10 days beginning with an initial email notification with two subsequent reminder emails.

Response options for the survey items were either a simple dichotomous yes/no type or a five-point Likert type. To establish a more pragmatic and reasonable definition of consensus regarding the Likert-type questions, each distinct set of response options was partitioned into semantically similar subsets (consensus groupings). So, for example, participants who responded to an item with either "unlikely" or "very unlikely" would be in consensus for that question. The grouping schema for the three types of Likert response options is given in Table 4.

Data were compiled and examined after each round to assess the level of consensus among the experts, which subsequently determined if an additional round was warranted. An additional round would be deemed necessary if the consensus level fell below the criterion of 70% on any of the main evaluative items. Authorized consent to conduct the study was provided by the Institutional Review Board (IRB) at North Dakota State University.

Round 1

The Round 1 survey was distributed to the complete listing of $N0$ = 514 collegiate golf coaches with the invitation letter. Participant consent was secured via an online consent form. Follow-up emails were sent to non-responders. The Round 1 survey remained open for 10 days.

Participants. A total of $N0$ = 514 college golf coaches working at the NCAA Division I level were invited to participate in the first round of the study. Of these, 36 (7%) participated in the first round of the study with 26 (5%) completing all survey questions for a 72.2% survey completion rate.

Table 5. The Modified Six Steps in the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf Based Upon Expert Feedback

Step	Name	Details
1	Stop (mental trigger)	Stop and focus on your next golf shot
2	Strategy (game planning)	Plan out the shot you want to hit and select an intended target
3	Look (visualization)	Visualize the flight that the golf shot
4	Outline (motor programming)	Outline the golf swing you will use for the flight you have visualized
5	Waggle (proper alignment)	Position your body into proper alignment
6	Go (execution)	Swing along the path you have outlined to hit the golf shot you desire

Note. See Table 1 for the initial version of the routine.

Within this sample of 32 respondents, 15 (46.88%) coached men's golf, 15 (46.88%) coached women's golf, and 2 (6.25%) coached both men's and women's golf.

Round 2

Adjustments were made to the STOP S.L.O.W. GO Routine based on the quantitative and qualitative feedback gathered from Round 1. These changes can be viewed in Table 5. An updated version of the survey instrument based on the responses collected in the first round was prepared by the researchers for the second round of data collection.

The second round of the Delphi survey was distributed on the same online platform. Participant consent was again secured via a consent page. Follow-up emails were sent to non-responders. The modified survey instrument for the Round 2 survey remained open for 10 days.

Participants. The n = 26 participants who fully completed the questionnaire from Round 1 were invited to participate in the second round of the study. Of these, 13 (50%) participated in the second round of the study with 10 (38.46%) completing all survey questions for a 76.92% survey completion rate. Within this usable sample of n = 13 coaches, six (46.15%) coached men's golf teams, six (46.15%) coached women's golf teams, and one (7.69%) coached both men's and women's golf teams.

Results

Round 1

A summary of the Round 1 results for usefulness of the steps in the STOP S.L.O.W. GO Routine is shown in Table 6. A consensus level above 70% was achieved for nearly all the first-round survey questions related to the usefulness of the model with the assessment of the six separate steps achieving an expert consensus rate no lower than 76.93%. Additionally, an 85.71% consensus rate was achieved in relation to the STOP S.L.O.W. GO Routine being an easy-to-remember acronym that college golfers can utilize when completing their pre-shot routines with only one (3.57%) of the 28 panelists in disagreement. Only the question regarding the usefulness of the overall model fell below the cutoff with a 67.86% consensus rate.

Table 6. Round 1 Responses for the Usefulness of the Steps in the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf

Step	Response	Frequency	Percent	Valance
Step 1: Stop	Useful	25	96.15%	Positive
	Not Useful	1	3.85%	Negative
Step 2: Strategy	Useful	26	100%	Positive
	Not Useful	0	0.0%	Negative
Step 3: Look	Useful	26	100%	Positive
	Not Useful	0	0.0%	Negative
Step 4: Outline	Useful	23	88.5%	Positive
	Not Useful	3	11.5%	Negative
Step 5: Waggle	Useful	20	76.9%	Positive
	Not Useful	6	23.1%	Negative
Step 6: Go	Useful	23	88.5%	Positive
	Not Useful	3	11.5%	Negative

The researchers attempted to improve the consensus levels by codifying the qualitative feedback received from Round 1 participants and adjusting the descriptions in five of the six steps of the STOP S.L.O.W. GO Routine. For Step 1, one participant said, "STOP has a slight negative inference. Focus or sharpen might be more positive?" There were no comments about Step 2. For Step 3, one participant said, "Some prefer to visualize the flight, some prefer to simply visualize where the ball is coming down on the green." Another said, "From experience, some players don't visualize the flight but still visualize 'something'. May be restrictive as you have defined it for some players." A third said, "If you don't see the shot, you might be a player who feels the shot or a player who simply reacts to an athletic idea of a target, such as a basketball player turning and shooting or a shortstop fielding and throwing to a target."

For step 4, one participant said, "I would recommend a different word. Outline doesn't seem to capture what's actually happening. Swing feel or feel would be more appropriate. I realize this doesn't help with the acronym." Another said, "Not sure what is meant by outline intended swing. I would like to think that would happen more naturally. This is something that would vary from person to person. Like the ability to visualize. Not saying it's bad, but I don't think one size fits all."

For Step 5, one participant said, "There is more to getting set up than waggle. Waggle is good, and it relaxes and frees up. The player may need to pay more attention to getting set up properly." Another said, "Not every player waggles. I understand that this fits within the acronym, but it's more about go triggers and players would need to understand that the waggle is based on their triggers and doesn't necessarily mean a true waggle." A third said, "Should already be in proper alignment. Ideally waggle is a trigger. Maybe you mean, waggle while staying in proper alignment. Many times, too much waggle causes alignment issues."

Table 7. Round 2 Responses for the Usefulness of the Steps in the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf

Step	Response	Frequency	Percent	Valance
Step 1: Stop	Useful	10	100%	Positive
	Not Useful	0	90.0%	Negative
Step 2: Strategy	Useful	10	100%	Positive
	Not Useful	0	0.0%	Negative
Step 3: Look	Useful	10	100%	Positive
	Not Useful	0	0.0%	Negative
Step 4: Outline	Useful	9	90.0%	Positive
	Not Useful	1	10.0%	Negative
Step 5: Waggle	Useful	10	100%	Positive
	Not Useful	0	0.0%	Negative
Step 6: Go	Useful	10	100%	Positive
	Not Useful	0	0.0%	Negative

For step 6, one participant said, "I like the use of "go". I don't like the repeat suggestion. Players create swings. Too much talk about what should be innate overall." Another said, "You should not have to think that much." A third said, "This could cause them to play with a "swing thought" instead of letting their body repeat the swing they just programmed into their brain."

Although the results of Round 1 came very close to attaining an expert level of consensus about Research Question 1, it failed to achieve a level of consensus related to Research Question 2 and the potential future utilization of the STOP S.L.O.W. GO Routine among the college golf coaches who were surveyed. Of the 26 panelists, only six (23.07%) indicated they were likely or very likely to utilize the STOP S.L.O.W. GO Pre-Shot Routine Model in their future golf instruction.

Based upon the qualitative feedback that was received regarding the likelihood of the model's utilization, additional survey questions (Questions 10-18) were developed for the Round 2 survey instrument to achieve a level of consensus related to Research Question 2.

Round 2

A summary of the Round 2 results for the usefulness of the steps in the STOP S.L.O.W. GO Routine is shown in Table 7. A consensus level above the target of 70% was achieved for all the second-round evaluation questions related to the usefulness of the STOP S.L.O.W. GO Routine with the overall model receiving an enhanced consensus rate of 72.73% and all six steps within the model achieving an expert consensus rate no lower than 90.00%. Both the models and steps resulted in marked improvements in consensus rates about Research Question 1 and the confirmed usefulness of the STOP S.L.O.W. GO Routine college golf coaches working at the NCAA Division I level.

Although the STOP S.L.O.W. GO Routine presented in Round 2 was deemed to be more useful, 0/10 (0%) of the survey respondents indicated they were likely or very likely to utilize the model in its current form in their

future golf instruction. This was a 23.07% decrease from the model presented in Round 1. When questioned whether they would be more likely to utilize the STOP S.L.O.W. GO Routine in their future golf instruction, 10% agreed they would be more likely to utilize it if the designer of the model conducted a face-to-face educational session with them and the members on their college golf team.

When reviewing the qualitative responses from participants, several of the survey participants indicated they "were happy with the current method they teach" and they "simply utilize a different model" when instructing pre-shot routines to college golfers on their team, which may have resulted in the low consensus rates. Those participants who indicated they would likely use the model in their golf instruction said, "it is simple and to the point." Another said, "I'm willing to try anything that has potential to help a player." A third said, "I would use it if it works for an individual player. If it works for them, great. If not, we will find something else or use parts of STOP S.L.O.W. GO."

The participants who indicated they were not likely to utilize the model said things such as, "I think it's a great idea, I would just have to try it out to see if it is more helpful than what their players are currently using. I just need to sample it" and "It may be something I would introduce to specific players who could find it beneficial." Another said he is not likely to use it "Because all of my players have their own individual routines, if they are struggling with their routine, I may suggest elements to try." A fourth said "I will continue to use the same philosophies which are similar to STOP SLOW GO. I may use stop slow go if I get a sense that a player will resonate with the words. I will continue to encourage focus at the outset (stop); consider all variables (s), pick one shot (l), feel the action (o), set up well and loose (w) and cut it loose (go)."

Discussion

The review of literature found that significant research has been conducted on pre-shot routines in golf. From a historical analysis of the research, it was discovered that much of the research had been informed by previous research findings in the field. However, it was also found that the pre-shot routines that have been constructed to date are still very different in their framework and that no singular pre-shot routine model had been determined to be useful by experts in the field and received universal adoption by researchers and practitioners alike. As a result of these findings and following the recommendations for future research (Cotterill et al., 2014), this study sought to develop the STOP S.L.O.W. GO Routine.

Research Question 1: ***Does the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf achieve a level of consensus amongst college golf coaches in the United States as to its overall usefulness?***

Based upon the results of the Delphi study, the usefulness of the STOP S.L.O.W. GO Routine featured in Table 5 has been validated among college golf coaches working at the NCAA Division I level by having achieved a 72.73% consensus agreement level. As to the usefulness of the model, a 100% consensus agreement rate was achieved. Additionally, of the six steps of the model, five steps achieved a 100% consensus agreement rate as to their usefulness outside of Step 4, which received a 90% usefulness agreement rate. When analyzing the qualitative feedback, it is plausible to assume that this may have been the result of the survey participants not fully understanding the "Outline" portion of the model and its importance to motor programming.

Based upon these results, it can be determined with a high level of consensus that the STOP S.L.O.W. GO Routine is a useful tool that golf coaches can utilize in their instruction of golfers. To further enhance the validity as to the usefulness of the STOP S.L.O.W. GO Routine, it is suggested that future research be conducted to analyze both immediate and long-term performance improvements that may be obtained by utilizing the model with fidelity. It is suggested that future golf studies utilize quantitative performance feedback from shot trackers or competitive golf scores to determine exactly how useful the STOP S.L.O.W. GO Routine is in improving golf performance and overall scoring rates.

Research Question 2: ***How likely are college golf coaches in the United States to utilize the STOP S.L.O.W. GO Pre-Shot Routine Model for Golf in their golf instruction?***

Based upon the results of the Delphi study, the researchers were unable to reach adequate levels of expert consensus, and it was determined that college golf coaches working at the NCAA Division I level are unlikely to utilize the STOP S.L.O.W. GO Routine in their future golf instruction. Although the survey respondents indicated that the changes to the model in Round 2 made the model more useful, it was also determined with an even lower level of consensus agreement that they would be likely to adopt it in the future. Additionally, survey respondents indicated they would be slightly more likely to adopt the STOP S.L.O.W. GO Routine if the designer of the model were to conduct a face-to-face educational session with them and the college golfers on their team.

Based upon these qualitative responses, it is plausible to assume that the adoption rates may indeed be higher if golf coaches were to fully understand the intricacies of the model itself in allowing golfers to develop their pre-shot routines within the steps of the model. Given the plausibility of advanced adoption rates of the STOP S.L.O.W. GO Routine that may arise from

additional instruction or time spent working and fully understanding the model, it is proposed that future researchers and pre-shot routine experts seek to introduce the model to golf coaches and provide advanced educational training. Upon the completion of this training, researchers should track the overall adoption rates to determine whether adoption rates increase with advanced education on the STOP S.L.O.W. GO Routine.

The results of these findings could better indicate the real utilization rates of the model (as opposed to the perceived utilization rates reported in this study) when fully understood and sampled by college golf coaches and members of a college golf team. Additionally, sampling the model to a demographic outside of college golf coaches may demonstrate better adoption rates given that participants also mentioned that "the framework could be effective for developing players" with the feedback that was received.

Although the college golf coaches in this study generally liked the model, they were not as inclined to use it because what they have been doing seems to work and because their collegiate golfers already have their routines. Perhaps a more likely audience to adopt this model would be high school coaches and teaching professionals who are often working with inexperienced and beginning golfers. Introducing this model to golfers at an earlier stage in their development might lead to more efficient and effective golfing.

A major limitation of this study is the low number of participants. The initial invitation to participate in this study was sent to 514 college golf coaches working at the NCAA Division I level. From this total of 514 potential subjects, only 36 (7%) participated in the first round of data collection and 13 (2.5%) completed the second round.

Significance of the Research

The results of this study are significant in that the STOP S.L.O.W. GO Routine has been validated by experts in the field as to its overall usefulness with all six steps being deemed useful when conducting pre-shot routines in golf. Furthermore, the results of the research answer the call by Cotterill et al. (2014) to develop a template at the psychological level that underpins the routines in golf and allows golfers to naturally develop their own pre-shot routines within these psychological constructs.

This study marks the first pre-shot routine model that has been identified and validated as to its usefulness among college golf coaches working at the NCAA Division I level. Although a level of consensus was not obtained as to the future utility of the STOP S.L.O.W. GO Routine among college golf coaches, the study itself presents an opportunity for future researchers to further examine if the model can be universally accepted by golf practitioners and researchers in the field.

Areas for Future Research

Based upon the results of the findings, it is suggested that future practitioners and researchers examine the efficacy and future adoption rates of the STOP S.L.O.W. GO Routine among golfers of all ability levels. The

model itself is a useful tool that can be utilized by all golfers to potentially enhance their golf performance. However, the next step in further validating the STOP S.L.O.W. GO Routine is to examine any immediate and long-term performance gains that may be achieved by utilizing the model with fidelity. It is suggested that these studies be based solely on performance outcomes that can be determined to have been caused as a direct result of utilizing the STOP S.L.O.W. GO Routine in competitive environments. Additionally, it is suggested that these performance outcomes be examined across a wide spectrum of performance-oriented golfers to determine where the model may have the most utility and beneficial impact on golfers.

Another area for future research on the STOP S.L.O.W. GO Routine would be to examine the adoption and utilization rates of golf coaches working at all levels after conducting face-to-face educational sessions. These education sessions should be conducted by a researcher who has expertise in pre-shot routines in golf and can fully understand and interpret the six steps of the STOP S.L.O.W. GO Routine. Additionally, it is suggested that any study includes the utilization of adherence logs to further examine the adoption rates and performance outcomes of individual golfers utilizing the model. This will help in further determining whether the model produces performance benefits for individual golfers as opposed to an entire group of golfers.

When analyzing the qualitative feedback, it is plausible to assume that consensus and real adoption rates of the STOP S.L.O.W. GO Routine may rise if college golf coaches further familiarize themselves with the intricacies of each step of the model and associated research outcomes of their adoption. Some participants indicated that "they will continue to use the same philosophies that are similar to STOP S.L.O.W. GO" and they may adopt STOP S.L.O.W. GO if they can "get a sense that a player will resonate with the words" of the model. Additionally, many of the participants indicated they would take pieces of the model, such as the "STOP" part, but would continue to utilize their pre-shot routine from there. Further, some participants stated that, "it's similar to what they've done for years" and that they "would use parts of STOP S.L.O.W. GO" if not all the steps worked for an individual golfer. The analysis of this qualitative feedback leads these authors to believe that the real adoption rates may be higher than the perceived adoption rates that were indicated by study participants.

Conclusion

This study aimed to examine the usefulness and potential future utility of the STOP S.L.O.W. GO Routine amongst college golf coaches working at the NCAA Division I level. Within a two-round Delphi study, consensus was reached as to the usefulness of the STOP S.L.O.W. GO Routine across the entire model and six steps within the model. However, consensus was not obtained when examining the future utility of the model among college golf coaches in their future golf instruction. The results of the study are important in determining whether the STOP S.L.O.W. GO Routine is a useful tool

that golfers of all ability levels may be able to utilize to improve their future golf performance. Additional assessment and examination of the model are encouraged to advance collective understanding of effective pre-shot routines in golf and to build a universally accepted model that can be utilized in future research.

Every golfer has his or her routines, rituals, procedures, and quirks that have been learned and practiced over time. Sometimes these actions are helpful, and in some cases, golfers do not even know if the actions are beneficial or detrimental; they simply do them because they have learned to do them. Along the way, someone, be it a friend, a coach, or a teammate has said, "try this, it works for me", or "this is how I do it" and the golfer starts doing the action without understanding the "why" of what they are doing. The STOP S.L.O.W. GO Routine gives purpose to each of the pre-routine steps that are based on the attentional control theory and provides a foundational framework for establishing a pre-shot routine.

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