

# Tech Suit Survey (Virginia LMSC)

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## Summary

On Aug 20, 2010, an electronic survey was administered to 1312 USMS swimmers who were registered in the Virginia LMSC in the years 2009 and 2010. The purpose was to get some notion of their reception to allowing technical suits in short-course yards (SCY) competitions. The survey consisted of four multiple choice questions and one open-ended question inviting comments. There were 184 responses to the survey. Of the respondents, 15% approved of the idea of allowing the suits in SCY meets, while 76% disapproved; the statistical margin of error in these numbers is about 7%. The disapproval rate is virtually identical among swimmers who identified themselves as regular or prospective participants in USMS competitions. The survey results do not support the notion that allowing technical suits to be used in SCY will increase participation in our LMSC; in fact, the tentative conclusion is that participation will probably decrease. The sources and potential effects of survey sampling bias are discussed at length in the report.

## Survey Description

The following description preceded the survey:

*"Technical" swim suits (also called "swimskins") are competition suits that can result in a significant improvement in swimming speed. They are usually constructed at least partly from impermeable materials, often cover the torso and legs, and use zippers to increase compression. Last January, the international swimming federation (FINA) greatly curtailed the use of these "technical suits" in masters swimming: swimsuits now must be made entirely from permeable material, they cannot have zippers, and the coverage is limited. USMS has adopted the FINA rules for suits, but there is a proposal from another LMSC to allow the use of the technical suits for short-course yards (SCY) meets. LMSC delegates will be voting on this proposal at the USMS Convention in mid-September, and we would like to get feedback from swimmers in our LMSC. Please help us out by completing this short survey.*

The survey questions were as follows.

1. Would you favor allowing "technical suits" -- such as the Speedo LZR -- in short-course yards (SCY) competitions?
  - a. Yes
  - b. No
  - c. No opinion
2. Would allowing tech suits in SCY meets make you:
  - a. More likely to compete in these meets?
  - b. Less likely to compete in these meets?
  - c. Not affect your decision to compete?
3. Would allowing tech suits in SCY:

- a. Increase your enjoyment of the sport?
- b. Decrease your enjoyment of the sport?
- c. Have no effect on your enjoyment?
4. Which of the following best describes you:
  - a. I compete regularly in USMS events.
  - b. I do not compete regularly in USMS events.
  - c. I intend to compete more when I have the time.
  - d. I prefer not to answer this question.
5. Any additional thoughts you wish to share?

The survey was administered using *iContact* ([www.icontact.com](http://www.icontact.com)), which the LMSC uses to distribute its monthly electronic newsletter. An email message was sent out to the entire contact list; the subject line read “*swimsuit feedback*.” The body of the email message had an introduction very similar to the preamble given on the survey web page (see above), and a link was provided to the recipient to start the survey. Each link was coded to the recipient, and the survey was private: one had to be “subscribed” to the email newsletter in order to participate in the survey.

The email was sent to the 1333 contacts on the list. This represents masters swimmers who registered in the Virginia LMSC in the years 2009 and 2010, minus people who had previously unsubscribed to the list and minus email addresses that had previously been determined to be invalid (through repeated bounced messages). Twenty-one of the survey messages bounced, so that 1312 people truly received the email. Of those, 502 actually opened the message, 196 clicked on the link, and 184 completed the survey. The number of opens and clicks is consistent with what have been observed for our email newsletter, as shown in the table below.

Subject	Recipients	Opens	Clicks
March e-newsletter	1183	37.34%	11.50%
April e-newsletter	1243	38.31%	16.09%
May e-newsletter	1252	34.72%	12.82%
June e-newsletter	1289	37.09%	14.20%
July e-newsletter	1353	28.08%	10.16%
Aug e-newsletter	1340	35.00%	14.27%
<b>Tech suit survey</b>	<b>1333</b>	<b>38.26%</b>	<b>14.94%</b>

It is usually desirable to generalize the results of a survey to a broader population. So what population is actually being represented by the respondents to this survey? The following observations may help answer that question.

- Participation in the survey was purely voluntary, and though it was clearly identified as a short survey, there were no extra inducements (prizes, etc) to entice people to take the survey. Swimmers who choose to do the survey were either those who cared most passionately about the issue or those whose civic duty motivated them to provide feedback.

- At the time of the survey, there were 1070 registered swimmers in the LMSC and 1022 of them provided email addresses at the time of registration; this is 77% of the contact list for the electronic newsletters. Over 90% of the respondents are currently registered for USMS, which means that swimmers who registered in 2010 were more likely to respond to the survey compared to those who have let their registrations lapse. It is likely that those who have let their membership lapse tend to be less engaged in masters swimming.
- Responding to question #4, 48% of the respondents identified themselves as “regular competitors” in USMS events, while 29% stated that they had a desire to compete when they had more time. Based on the best available information, somewhere between 20-30% of the members of our LMSC participate in at least one meet per year. This is consistent with the trend at the national level. So those who responded to the survey tended to be more likely to be regular participants in USMS competitions than the typical member.
- The number of respondents who had “no opinion” on whether tech suits should be used was surprisingly low, at 10%, considering that 70-80% of the LMSC members do not participate in competitions. Of those who identified themselves as non-competitors, the percentage with no opinion increased to 21% but this percentage remained low (6-7%) in the other two categories of swimmers. For those who elected not to respond (either failed to open their email or failed to click on the survey link), it is suspected that for most of them, the issue is not very important and the percentage that would have chosen “no opinion” would have been even larger than 21%.
- The administrator of the survey was contacted by two recipients who were having trouble finding the link in the email sent out by *iContact*. The problem is believed to be that the email message was sent in HTML format, and the link was tied to a graphic that was not loaded by the email client software of those recipients. In both cases the problem was eventually resolved – they were able to complete the survey – but there may have been other recipients who had the same problem but did not seek help. So the survey may have discriminated against those with lesser computer skills or those who are uncomfortable with electronic surveys. And obviously the survey discriminates against members who either do not have email addresses, or were not comfortable providing an email address during the registration process.
- There were only 21 bounced emails (due to invalid email addresses), but there may have been a number of others whose spam filters prevented them from seeing the message; not everyone checks their “spam” folder very frequently. It is difficult to know how large is this group, though given the similarities in the numbers for the other newsletters, the number is probably consistent for all the emails. There is little reason to believe that the people who failed to open their email – whatever the reason – would have represented one side of the issue more strongly than the other, so it is believed that bias for/against the suits is not introduced by this factor.
- The age distribution of the respondents is as follows: 27% were 18-39, 53% were 40-59, and 20% were 60+ years old. The corresponding percentages of the currently registered swimmers in Virginia are 35%, 51% and 14%. The difference is right at the edge of statistical difference, the respondents’ ages skewing older than that of the general membership.

These observations lead one to conclude that the sampling was biased; in other words, the respondents are not a completely typical cross-section of the LMSC membership. It is believed that ***the respondents represent a segment of the LMSC that tends to be more actively engaged in masters swimming***: they are more likely to compete in meets/races and more likely to read the electronic newsletter and click on its contents for more details about meet results, swimming articles, and upcoming events. There may also be a slight discrimination against those who are less computer-savvy, but the effect is believed to be slight because the age distribution of the respondents more or less matches that of the LMSC as a whole. (However, there may be two opposite effects that mask bias: for example, if older swimmers are more likely to compete but less comfortable with electronic surveys.)

Does the sampling bias invalidate quantitative analysis of the survey? We contend that it does not, for the purposes of finding the relative strength of support for and against the general concept of allowing technical suits in SCY meets. A good argument can be made that masters swimmers who are less engaged are far more likely to be indifferent to the tech suit issue. Indeed, since this was an elective survey, such a bias would not be surprising: those who don't care about the issue tend not to take the survey. Including their responses would likely have increased the number of "neutral" responses in the survey, but not changed the proportions between those who like and those who dislike the idea of allowing tech suits in SCY.

## Results and Discussion

### Quantitative Data

The raw data (except for identifying email addresses) are available online at

<http://www.vaswim.org/SurveyReport.xls>. Summary statistics are presented in the next table.

	Allow Tech Suits in SCY?			More/less likely to compete?			Enjoyment of sport?		
	Yes	No	No opinion	More	Less	Neither	Increase	Decrease	Neither
<i>All reponses (n=184)</i>	15%	76%	10%	8%	43%	49%	8%	49%	42%
<i>Currently registered (90%)</i>	14%	75%	10%	8%	43%	49%	8%	50%	41%
<i>Competes regularly (48%)</i>	17%	76%	7%	8%	43%	49%	11%	56%	31%
<i>Would like to compete (29%)</i>	17%	76%	7%	11%	41%	48%	7%	43%	50%
<i>Does not compete (21%)</i>	8%	71%	21%	3%	42%	55%	3%	37%	61%

The survey errors for this sample size (according to "The Gallup Poll Monthly") range from 5-9% ; the lower portion of the range apply to values at the extreme – near 0% or 100% -- while the larger numbers apply to values near 50%. A few observations about the data:

- For all questions, the difference between the votes "for" the suit and those "against" is much greater than can be explained by survey error. The ratio between the two is roughly consistent: about 4-5 times as many people disapprove as approve of the idea of allowing the suit in SCY.
- The responses to question #2 ("Would allowing tech suits in SCY meets make you more or less likely to compete?") would seem to predict a *decrease* in participation in SCY meets if the suits are allowed. This undermines the argument of tech suit proponents that the opposite effect would occur. However, a survey can be an unreliable indicator of future behavior: survey

respondents might say they are less likely (or more likely) to compete but not follow through with these intentions. A more reliable way to see the effect on participation would be to analyze attendance time series data and try to control for confounding effects (this may not be possible).

- For the most part, whether or not one competed did not seem to have a great influence on most of the responses. Those who self-identified as non-competitors seemed more likely to have no strong opinion on the matter, at the expense of votes for approval; the rate of disapproval was largely unchanged by indifference.
- The difference between questions 2 and 3 is a little subtle. One argument often made for adopting the suits is that it will increase participation, and question 2 (“Would allowing the suits make you more/less likely to compete?”) is designed to address this question directly. Question 3 is designed to address a “quality of life issue.” For example, there may be swimmers who will compete regardless of the decision regarding the suits, but may enjoy it less (or more). There is a small difference in the responses of indifference and disapproval between the two questions; it is just at the edge of statistical significance. It suggests that some of those who disapprove of the suits might still be willing to compete but may enjoy the experience less.

## Comments

The comments are included in the raw data (<http://www.vaswim.org/SurveyReport.xls>) and have also been compiled in a separate document so that the comments of those who approve, disapprove, or are indifferent to the suits (according to their answer in Q1) have been gathered together. This document is located online at <http://www.vaswim.org/TechSuitComments.pdf>. Overall, 53% of the respondents elected to provide a comment, some of them at length.

The comments make for interesting reading, and can sometimes provide a more nuanced picture of attitudes towards a proposal to allow them in SCY than simple statistical analysis of the answers to the first four questions. What follows is a summary of the comments; readers are encouraged to read the comments themselves to get a fuller picture.

Of the 27 people who voted “YES” to question 1 (ie, in favor of allowing the suits for SCY), 13 of them (48%) shared their thoughts. Reasons varied, but two common themes emerged

- People should be given the **freedom to choose** the suit they want to wear.
- Allowing the suits would **increase participation** in meets.

Other comments proposed various compromises: allow the suits, but not for nationals or Top Ten; allow an older version of the suit, or allow women and men to have similar coverage.

Of the 139 people who voted “NO” to the question of allowing the suits in SCY meets, 77 of them (55%) shared their thoughts. The four most common themes in the comments, roughly in order of popularity (the first two were particularly popular):

- **Purity of the sport.** Swimming is not about equipment, nor should it be; one shouldn’t be able to purchase speed, one should have to train for it.

- **Cost and fairness**, creating a level playing field. Those who can afford the suits get too much of an advantage over those who do not, or choose not to purchase them.
- We should be **consistent with FINA** rules.
- We should have rules **consistent across all courses**.

Of the 18 people who voiced “NO OPINION” to the question of allowing the suits in SCY meets, 7 of them (39%) provided comments. Even though they their answer to the question might seem to indicate indifference, their comments repeat many of the arguments given earlier by others in favor, or against, allowing the tech suits.

## Conclusion

While there are certainly some outspoken supporters of the technical suits, the survey response was sharply negative to the idea of allowing technical suits in SCY. There is also a clear suggestion that participation in SCY meets would actually decrease if technical suits were allowed, although this conclusion is a little more tenuous since surveys do not always accurately mirror future behavior.

There are two proposals for rule changes to allow the use of “technical” suits in SCY meets. We elected not to present the specific proposals themselves to the LMSC so as not to get distracted by details of the specific proposals or questions that might be distracting (for instance, one proposal appears to allow the use of wetsuits in pool competition, while the does not mention whether zippers would be allowed on the suits). Instead, the purpose of the survey was to get an idea of the feeling in the LMSC regarding the general concept of using technical suits in SCY meets. However, the comments, which help provide for the REASONS behind particular voting patterns, can help us hazard a prediction of the results in response to a particular proposal.

There is a sampling bias in this survey, beginning with the fact that the survey was a voluntary undertaking and required that the respondent have an email address and a certain minimum level of comfort with computers. But we contend that it is likely that the bias is in favor of those swimmers who care most passionately about the issue (and, more generally, masters swimming). This conclusion is supported by (a) the relatively high fraction of respondents who identified themselves as “regular competitors” argues to this point, (b) the low fraction of respondents who expressed “no opinion” about the tech suit, and (c) the fact that the people who responded to the survey tend to be those who regularly read their monthly electronic swimming newsletter and click on the links contained therein. Since it is not clear how such a bias would skew strongly for or against people who favor a particular side of the tech suit issue, we think the survey results are an accurate representation of majority opinion of those USMS members in the Virginia LMSC who are most actively engaged in masters swimming.