

A report summarizing Big Blue Adventure events' economic impact on the Lake Tahoe region as well as participants' assessments of their event experience

Big Blue Adventure Event Analysis

UTC Tourism Center
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Executive Summary

- Among the 267 participants sampled, 65% were visitors credited for inducing economic impact to the Lake Tahoe region. The average age of all participants was 39 and 55% identified as male.
- Participants stayed on average 2.2 nights while participating in their events and referenced “home rental” as their preferred means of lodging (33%).
- The Donner Lake Triathlon brought in 637 non-local participants who had an average party size of just under two (1.76). When accounting for group size and non-local participant spending averages, the event contributed \$529,640 in total economic impact to the Lake Tahoe region.
- The Lake Tahoe Triathlon attracted 774 non-local participants who had an average party size of just over 1 (1.27). When accounting for group size and non-local participant spending averages, the event contributed \$471,168 in total economic impact to the Lake Tahoe region.
- The Squaw Valley Half Marathon accounted for an additional \$12,179 in total impact.
- Among the event-related characteristics participants were asked to evaluate, “physical environment” and “course novelty” were rated most influential in explaining participants’ positive event experiences. These two factors point to the important role the natural landscape plays in an athlete’s adventure sport evaluation of an event. It also demonstrates a unique comparative advantage that Lake Tahoe possesses over other alternative events.
- For each of the three events analyzed, participants, in relation to other event facets, responded less favorably concerning the atmosphere and ancillary entertainment created by Big Blue Adventure.
- Overall, participants expressed favorable behavioral intentions (i.e., event loyalty) with respect to their events. Each of the competitions analyzed in this study had average responses above 6 on a 1-7 scale, indicating a strong likelihood to return to compete again the following year and speak positively about the event to their peers.
- Consistent among both triathlons were poor evaluations of “competition” which indicates that this may not be an influential factor in explaining participants’ event loyalty. In fact, respondents cited competition as being the least impactful among the nine factors examined.

Project Overview

The purpose of this study was two-fold. The first objective was to examine the direct and indirect economic impacts Big Blue Adventure events have on the Lake Tahoe region. The second objective was to identify which event-related elements were perceived to be most influential in forming athletes' perception of the event. In other words, this research attempted to identify the most salient factors influencing adventure sport athletes' choice among adventure sport alternatives.

Included in the economic impact report are details noting both direct and residual impacts of three Big Blue Adventure events: Donner Lake Triathlon, Lake Tahoe Triathlon, and the Squaw Valley Half Marathon. The direct impact reflects dollars spent by non-local participants, which are made immediately available for economic circulation within the geographical impact area (Lake Tahoe/Donner Lake region). The indirect impact values will reflect spending which occurs by businesses inter-related to the event. Finally, induced spending is assessed by appraising annual change in household spending as a product of increased income emanating from the event

It should be noted that the report does not account for the cost of hosting the aforementioned events by the local communities and event directors (i.e., infrastructure, maintenance, staffing, etc.). Rather, the analysis chose to only analyze the net impact that non-local participants have in the region. Thus, economic figures reported should be viewed as a conservative estimate.

Methods

In an effort to delineate each event's distinguishing characteristics, the report is divided into four sections: 1) Descriptive information for the collective sample (n = 267), 2) Donner Lake Economic and Consumer Report, 3) Lake Tahoe Triathlon Economic and Consumer Report, and 4) Squaw Valley Economic and Consumer Report. The data are a summation of useable survey responses collected from a sample of participants who competed in the 2016 Donner Lake Triathlon (n = 145), Lake Tahoe Triathlon (n = 46), as well as the Squaw Valley Half Marathon (n = 39). Survey responses were collected by self-administering the survey on-site and by disseminating the survey through an online platform (Qualtrics) following the event competitions. Participant surveys included: demographics, travel-related information, estimated expenditures, and questions assessing the quality of event-related facets (i.e., physical environment, atmosphere, ancillary entertainment, event novelty, competitive field, event organization, site maintenance, self-service technology, and site accessibility).

Data were analyzed by using SPSS and IMPLAN software to ascertain descriptive statistics and for each event's economic impact on the economy. To determine the geographic impact area, respondents were asked to indicate whether they traveled 50 miles or more to attend the event. A 50-mile standard for determining non-local status is a commonly used criteria for economic impact studies examining incremental spending¹.

When attempting to generalize findings from a sample to a collective population, two criteria must be determined:

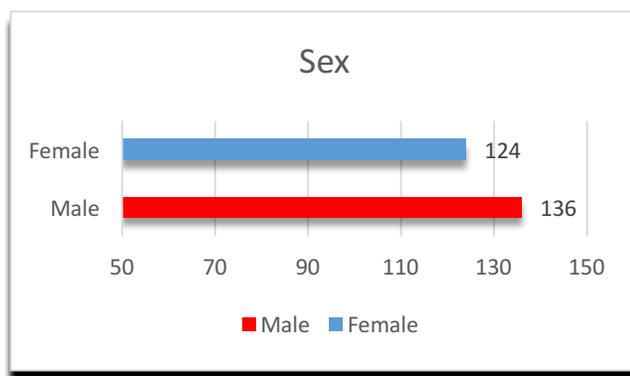
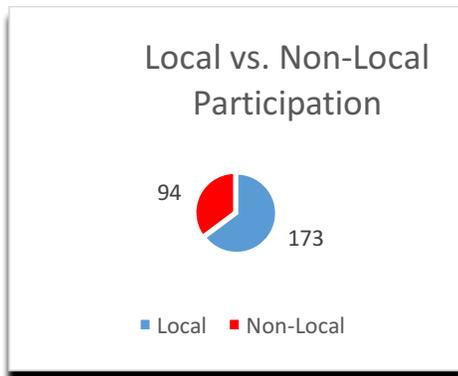
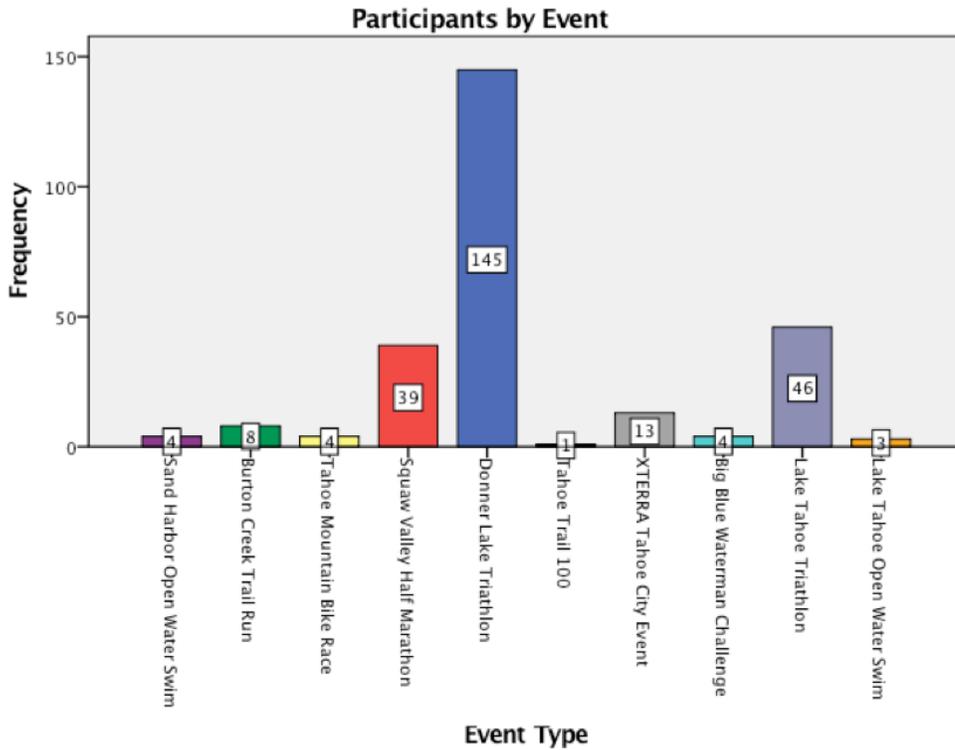
- The sample is comprised of participants which is representative of the greater population
- The sample is large enough to encapsulate at minimum, 10% of the population

Impact was projected for those events which did not achieve a 10% survey response rate. To achieve overall impact, the average expenditures and group size for each competition was applied to actual numbers of non-resident participants.

1. Vander Stoep, G. A. (2005). Challenges of using estimations of economic impacts for cultural tourism. In Bricker, K., (Ed.), *Proceedings of the 2004 Northeastern Recreation Research Symposium* (pp. 109-117). Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station.

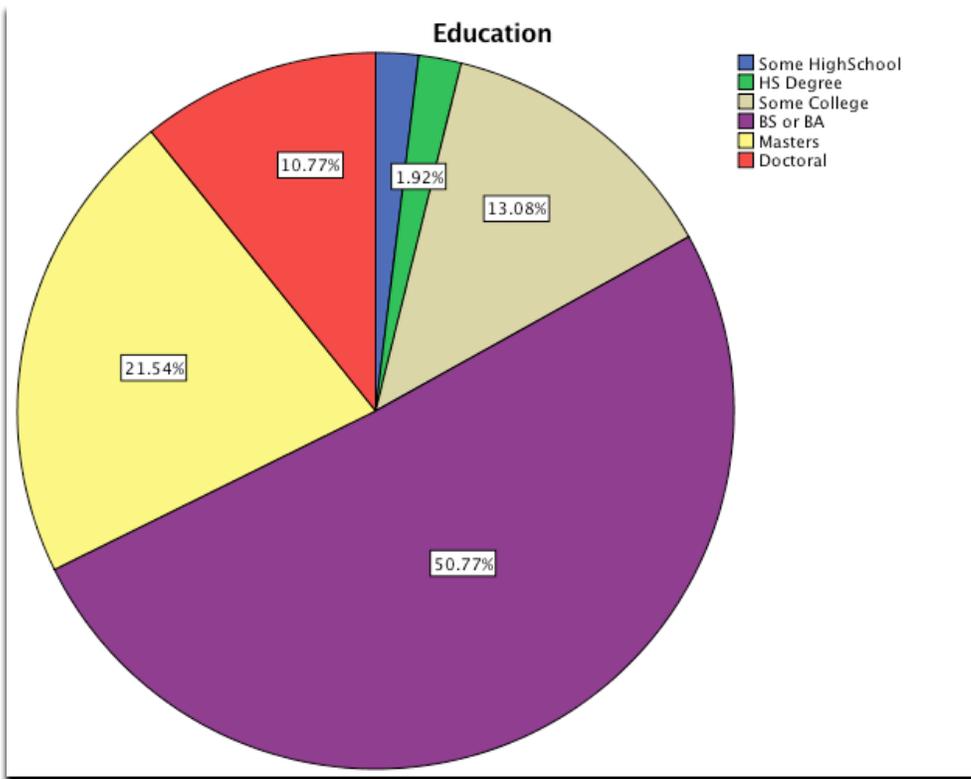
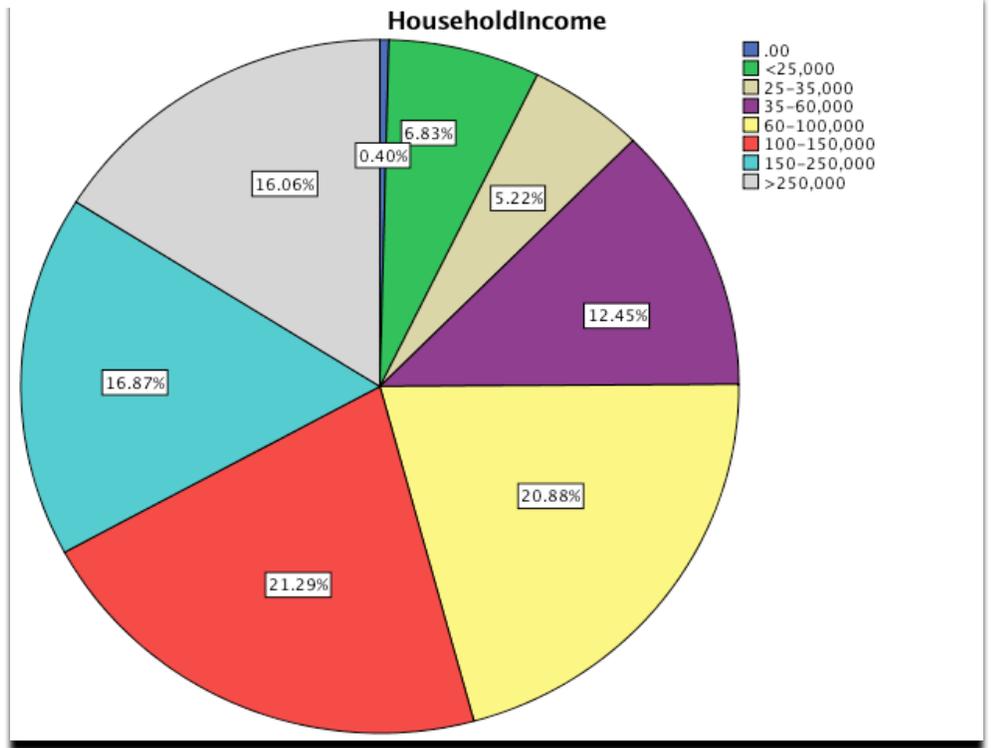
Demographic Information for Study's Sample

Among the sampled participants, 55% were male, had a median age of 37, and were comprised largely of individuals residing outside of El Dorado and neighboring counties (66%). Squaw Valley Half Marathon participants exhibited the greatest contrast from the overall sample (see p. 17) with an average age of just under 35 and a 58% representation of female athletes.



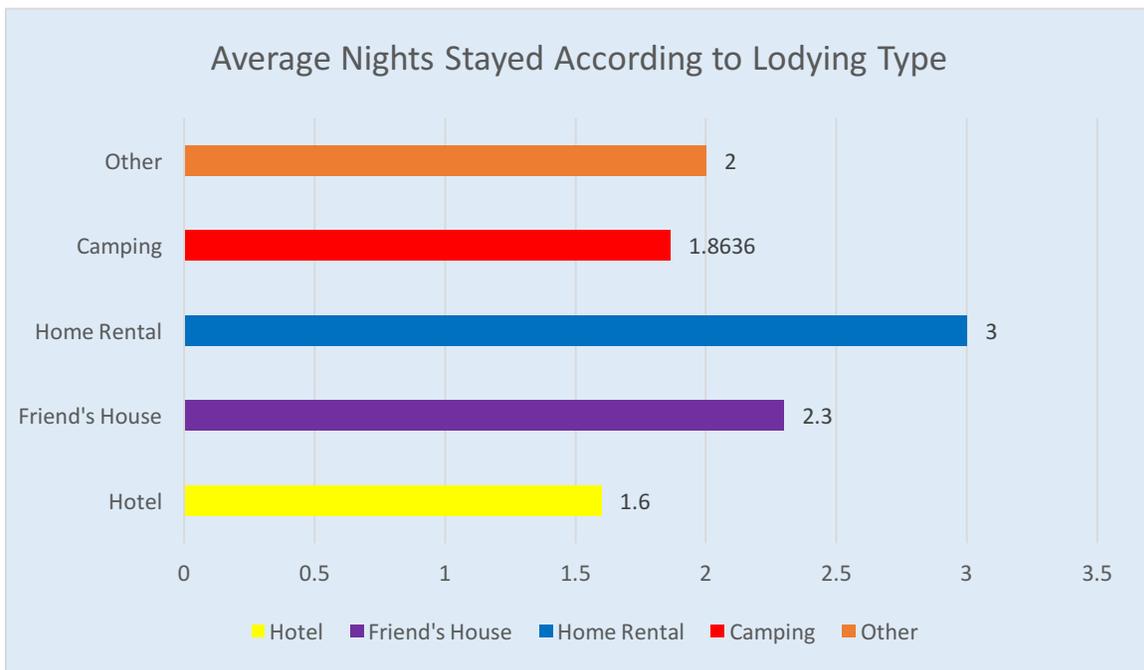
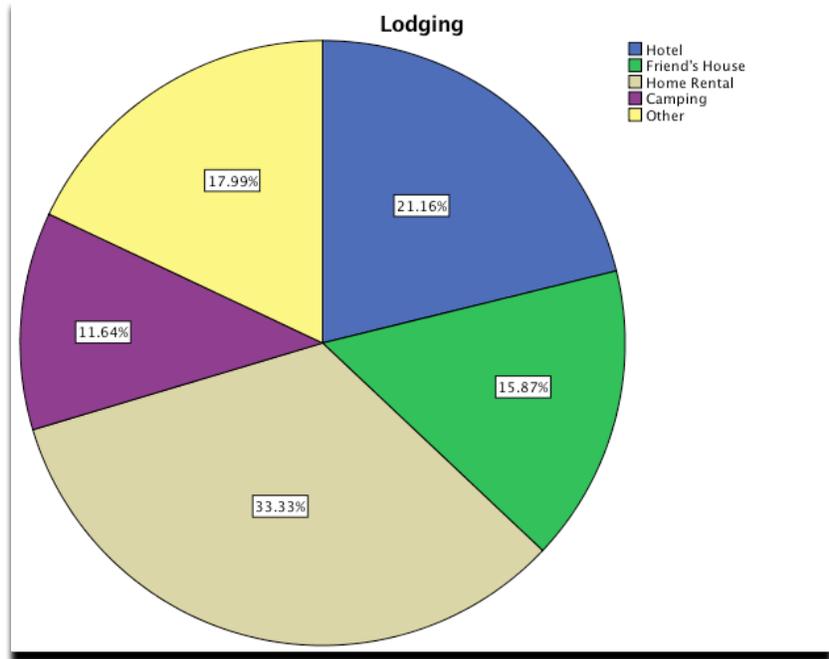
Demographic Information for Study's Sample

Additional demographic data for the study's sample indicates that over 50% of athletes participating belong to a high socioeconomic segment, evidenced by household earnings exceeding \$100,000 per year. Participants were also well-educated with nearly one third of respondents (32.31%) indicating that they had earned a graduate level degree or higher.



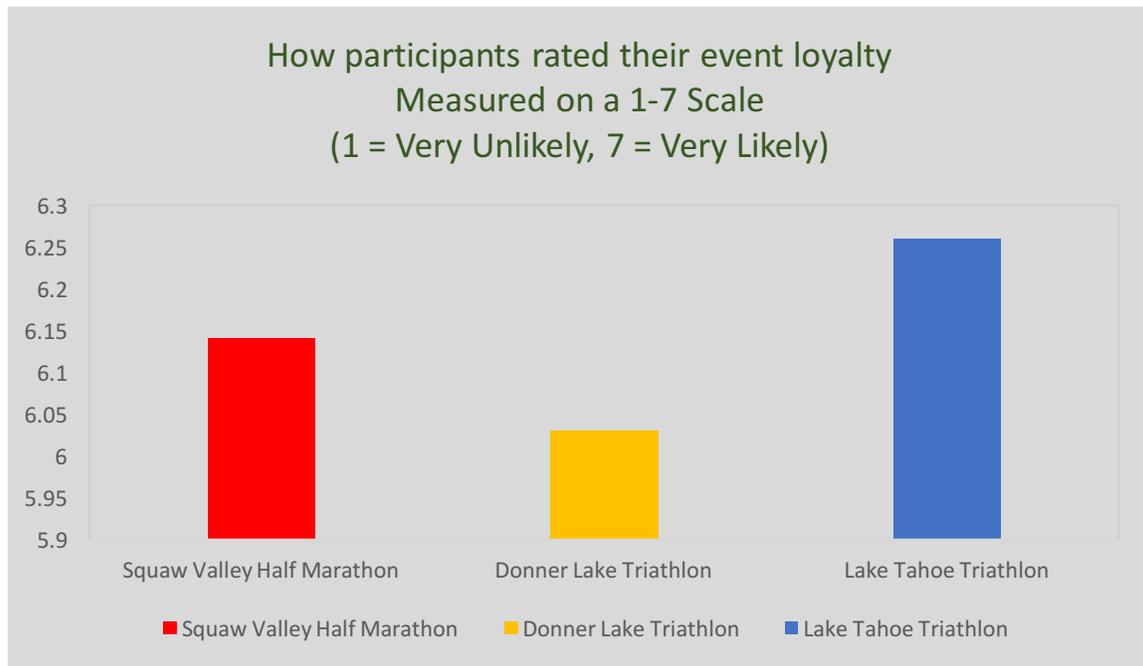
Travel Information for Study's Sample

Travel data from all athlete respondents suggests that participants favor Home Rental as their preferred means of lodging while competing. Home renters also elected to stay in the Lake Tahoe/Donner Lake region longer than participants who elected to stay with alternative options. Interestingly, hotels, a relatively common choice among travelers, was the least selected lodging option.



Big Blue Adventure Consumer Loyalty Data

Event loyalty refers to a behavioral intention stage noted by one's repeated episodes of positive affect toward a brand, in this case Big Blue Adventure. Examples of positive affects (attitudes) include likelihood of repeat attendance and positive word-of-mouth communications. The results indicate positive evaluations of all three events.



Demographic Information for Donner Lake Tri Participants

Demographics for Donner Lake Triathlon Sample

Demographic Variable	<i>N</i>	%	<i>Avg.</i>
Sex			
Male	78	55.3	
Female	63	43.4	
Age			40.11
18-25	33	23.4	
26-30	19	13.5	
31-40	21	14.9	
41-50	23	16.3	
51-60	26	18.4	
61-70	14	9.9	
71+	3	2.0	
Resident Status			
Local	41	28.3	
Non-Local	104	71.7	
# of Nights Stayed			2.66
0 Nights	3	2.8	
1-2 Nights	69	65.1	
3-4 Nights	21	19.8	
5+ Nights	13	9.7	
Household Income			
<\$25,000	11	8.2	
\$25-60,000	14	10.4	
\$61-\$100,00	28	20.9	
\$101-150,000	23	17.2	
Greater than \$150,000	57	42.5	
Non-disclosed	12		
Lodging Type			
Hotel	18	17	
Friend's House	14	13.2	
Home Rental	42	39.6	
Camping	13	12.3	
Other	19	17.9	

Donner Lake Triathlon Economic Impact Analysis

The event's **Total Economic Impact** represents the initial direct spending attributable to non-local participants, as well as the residual effect it has on the region's economy. The residual spending which occurs as a result of the direct spending of visitors participating in the Donner Lake Triathlon is measured by assessing both indirect and induced effects. **Indirect Effects** are a product of additional spending (jobs, materials, etc.) which occurs by local businesses as a result of improved commerce due to the event. **Induced Effects** reflect additional spending that occurs by resident employees as a result of added wages attributable to the event's existence. The table at the bottom of the page illustrates the triathlon's impact on:

- **Employment** – Number of annual full time jobs supported by the triathlon
- **Labor Income** – Amount of added income for existing employees
- **Total Value** – True profits after accounting for employment, taxes, and other ordinary expenses
- **Output** – Total revenues derived from the Donner Lake Triathlon

Participant Breakdown			
	Survey Respondent Frequencies	Actual Athlete Participation	Actual Percentage of Local vs. Non Local Athletes
Local Athletes	41	218	25%
Non Local Athletes	104	637	75%
Total Athletes	145	855	100%

Itemized and Total Expenditures of Participants and Travel Party			
Expenditure Category	Avg. Spent per Participant	Avg. Spent per Party	Total Per Category
Food	\$48.49	\$85.33	\$146,767.38
Lodging (L)	\$96.48	\$96.48	\$165,928.56
Transportation (T)	\$14.18	\$24.96	\$42,931.37
Shopping (S)	\$25.49	\$44.86	\$77,160.05
Other (O)	\$5.54	\$9.75	\$16,765.17
Total Spent Per Party (TSPP) (F+T+S+O)	\$261.38		
Total Direct Impact	\$449,552.53		

Economic Impact Summary				
Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	6.02	166,964.73	199,864.02	346,113.33
Indirect Effect	0.64	26,666.03	40,591.93	81,621.66
Induced Effect	0.77	30,028.79	55,700.37	101,905.36
Total Effect	7.43	223,659.55	296,156.33	529,640.36

- A total economic stimulus of \$529,640 can be attributed to the Donner Lake Triathlon
- The Donner Lake Triathlon supports over 7 full time jobs in the Lake Tahoe region.

These values reflect the “ripple effects” the Donner Lake Triathlon race has on particular industries in the Lake Tahoe region. It should be noted that Total Employment reflects a multiplier value indicating that the creation of 1.0 new direct jobs as a result of the event will result in 1.0 jobs in the local economy. Based on the data below, expenditures related to the triathlon support the creation of over 7 jobs and contribute substantially to the local economy.

Top 10 industries which received the greatest economic stimulus from the Donner Lake Tri event

Description	Total Employment	Total Labor Income	Total Value Added**	Total Output*
All other food and drinking places	3.77	102792.44	85235.69	148274.52
Hotels and motels, including c...	1.75	51629.39	92870.34	166079.51
Retail - General merchandise s...	0.30	7165.45	14852.38	22270.28
Retail - Miscellaneous store r...	0.24	4111.48	5578.10	8867.16
Real estate	0.21	4778.38	13134.39	24559.54
Full-service restaurants	0.05	1194.17	1307.23	2433.46
Services to buildings	0.05	1606.73	1661.03	2367.28
Retail - Gasoline stores	0.04	4016.15	4829.64	5949.37
Limited-service restaurants	0.04	822.69	1983.02	3550.92
Other financial investment activity	0.04	718.91	816.19	4635.47

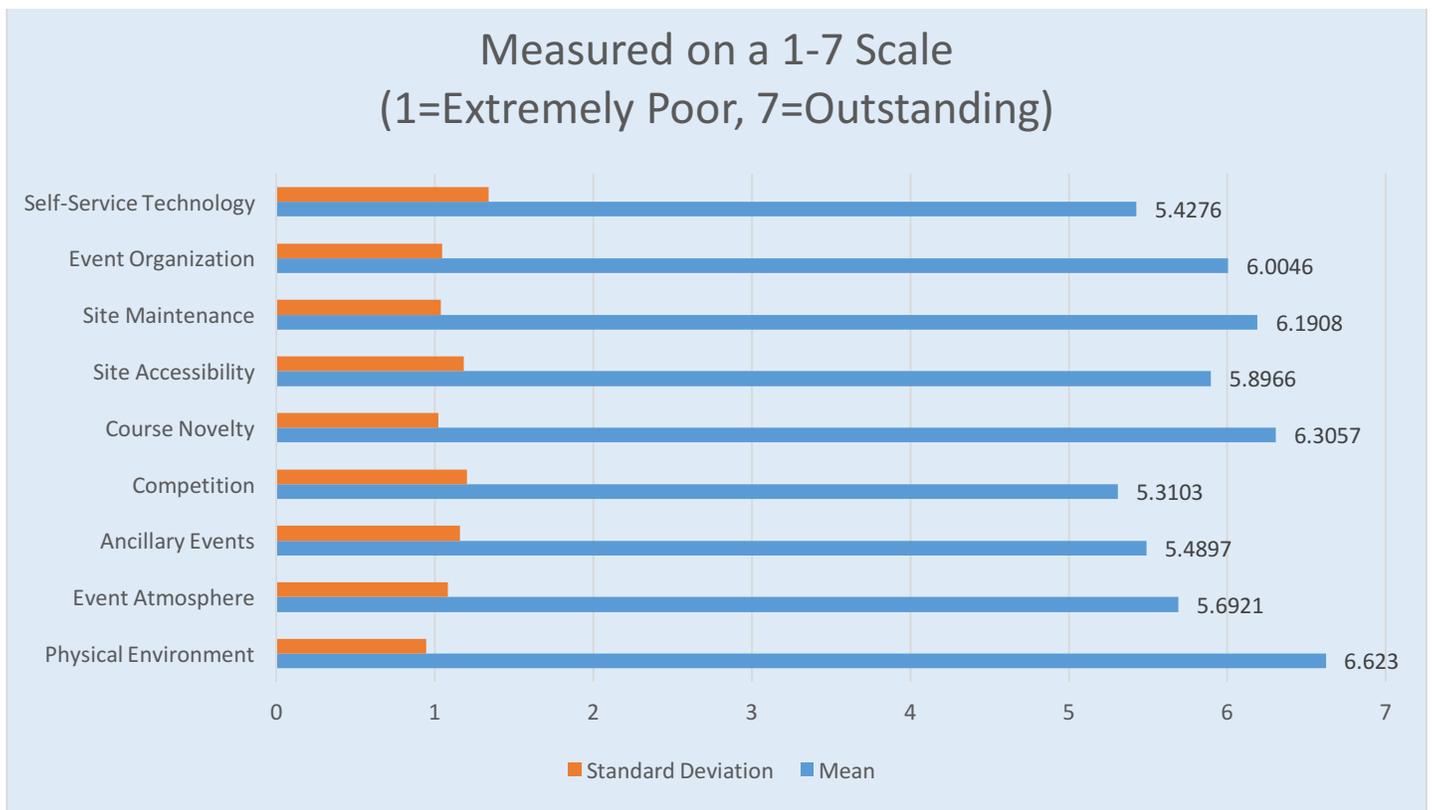
Note. *Output refers to the total economic value of the event in the local economy

**Value Added shows the total income that the event generates in the local economy.

Donner Lake Triathlon Consumer Report

Donner Lake Triathletes surveyed in this study expressed favorable attitudes toward the event. This was evidenced in their “event loyalty” assessments outlined on p. 8. The event-related elements analyzed in this study which best influenced this outcome related to the distinctiveness associated with the event’s physical environment and setting. It’s apparent from these results that Donner Lake’s natural environment provides a unique and comparative advantage for Big Blue Adventure based upon other events’ inability to replicate these facets.

Although participants exhibited favorable attitudes towards the event, the results suggest that there are event aspects within Big Blue Adventure’s control that can be augmented. For instance, two factors which relatively low evaluations in comparison to others were “ancillary events” and “event atmosphere.” These are two factors which have been shown in research to be instrumental to both spectators and participants’ overall experience. Further, an event’s atmosphere and ancillary qualities can significantly enhance sport tourists’ perception of the host destination as they relate very closely with a communities’ culture and entertainment value.



Demographic Information for Lake Tahoe Tri Participants

Demographics for Lake Tahoe Triathlon Sample

Demographic Variable	N	%	Avg.
Sex			
Male	22	47.8	
Female	24	52.2	
Age			39.09
18-25	3	6.5	
26-30	12	26.1	
31-40	11	23.9	
41-50	13	28.3	
51-60	4	8.7	
61-70	2	4.3	
71+	1	2.2	
Resident Status			
Local	18	39.1	
Non-Local	28	60.9	
# of Nights Stayed			1.76
0 Nights	1	2.6	
1-2 Nights	31	81.6	
3-4 Nights	5	13.2	
5+ Nights	1	2.6	
Household Income			
<\$25,000	0	0	
\$25-60,000	8	18.2	
\$61-\$100,00	13	29.5	
\$101-150,000	10	22.7	
Greater than \$150,000	13	29.6	
Non-disclosed	2		
Lodging Type			
Hotel	12	31.6	
Friend's House	7	18.4	
Home Rental	14	36.8	
Camping	3	7.9	
Other	2	5.3	

Lake Tahoe Triathlon Economic Impact Analysis

The event's **Total Economic Impact** represents the initial direct spending attributable to non-local participants, as well as the residual effect it has on the region's economy. The residual spending which occurs as a result of the direct spending of visitors participating in the Lake Tahoe Triathlon is measured by assessing both indirect and induced effects. **Indirect Effects** are a product of additional spending (jobs, materials, etc.) which occurs by local businesses as a result of improved commerce due to the event. **Induced Effects** reflect additional spending that occurs by resident employees as a result of added wages attributable to the event's existence. The table at the bottom of the page illustrates the triathlon's impact on:

- **Employment** – Number of annual full time jobs supported by the triathlon
- **Labor Income** – Amount of added income for existing employees
- **Total Value** – True profits after accounting for employment, taxes, and other ordinary expenses
- **Output** – Total revenues derived from the Lake Tahoe Triathlon

Participant Breakdown			
	Survey Respondent Frequencies	Actual Athlete Participation	Actual Percentage of Local vs. Non Local Athletes
Local Athletes	18	188	20%
Non Local Athletes	28	774	80%
Total Athletes	46	962	100%

Itemized and Total Expenditures of Participants and Travel Party			
Expenditure Category	Avg. Spent per Participant	Avg. Spent per Party	Total Per Category
Food	\$63.82	\$81.05	\$112,913.38
Lodging (L)	\$113.26	\$113.26	\$157,798.29
Transportation (T)	\$30.00	\$38.10	\$53,080.92
Shopping (S)	\$30.66	\$38.94	\$54,244.98
Other (O)	\$19.70	\$25.02	\$34,863.02
Total Spent Per Party (TSPP) (F+T+S+O)	\$296.37		
Total Direct Impact	\$412,900.59		

Economic Impact Summary				
Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	5.23	14,3761.78	178,120.65	307,752.90
Indirect Effect	0.59	24,564.72	37,192.89	74,841.49
Induced Effect	0.67	26,100.20	48,414.34	88,574.03
Total Effect	6.49	194,426.69	263,727.88	471,168.43

- A total economic stimulus of \$471,168 can be attributed to the Lake Tahoe Triathlon
- Nearly 6.5 full time jobs are supported by the Lake Tahoe Triathlon

These values reflect the “ripple effects” the Lake Tahoe Triathlon race has on particular industries in the Lake Tahoe region. It should be noted that Total Employment reflects a multiplier value indicating that the creation of 1.0 new direct jobs as a result of the event will result in 1.0 jobs in the local economy. Based on the data below, expenditures related to the triathlon support the creation of over 6 jobs and contribute substantially to the local economy.

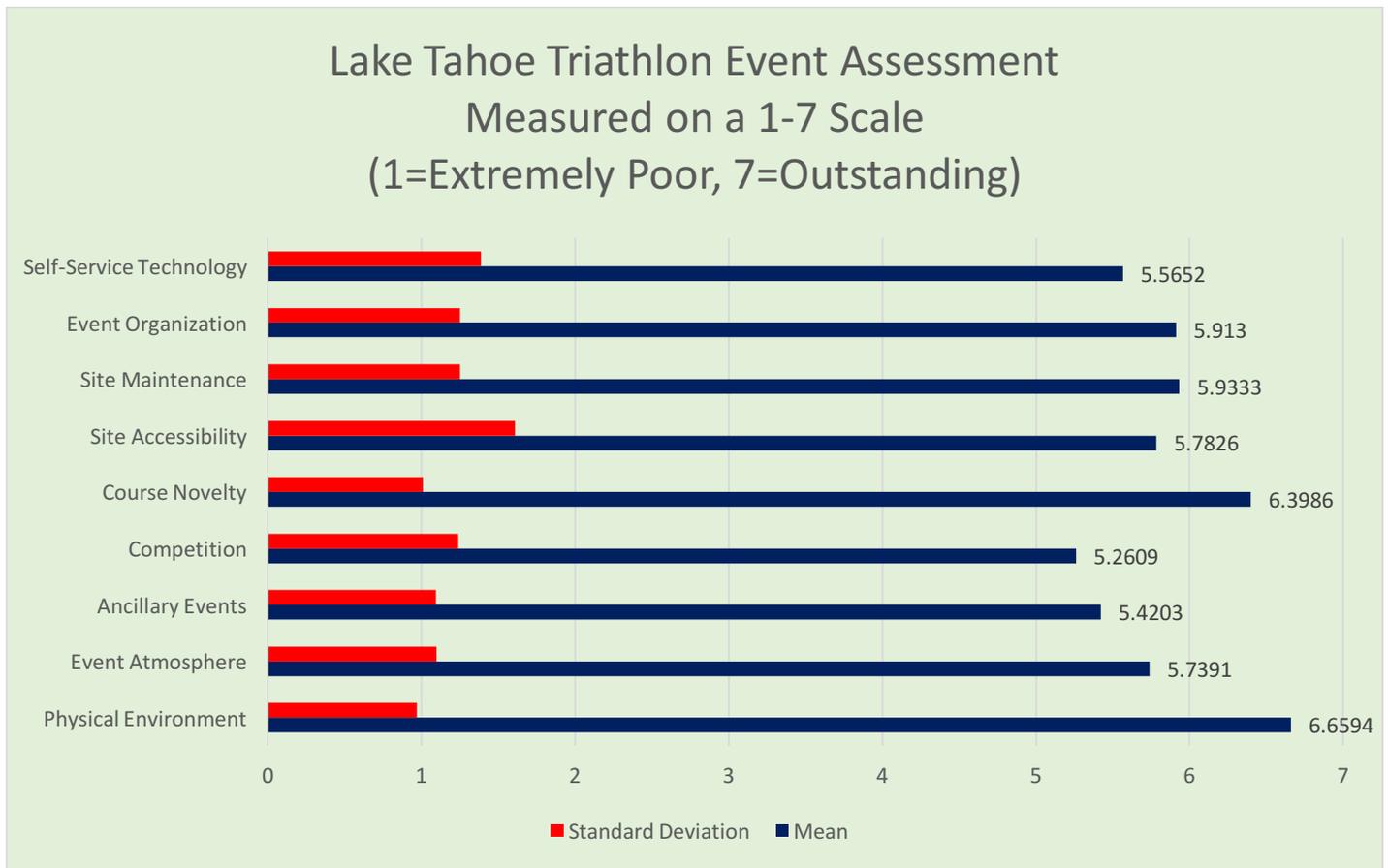
Top 10 industries which received the greatest economic stimulus from the Lake Tahoe Tri event

Description	Total Employment	Total Labor Income	Total Value Added**	Total Output*
All other food and drinking places	2.91	79240.87	65706.68	114302.20
Hotels and motels, including c...	1.67	49096.72	88314.60	157932.52
Retail - General merchandise s...	0.47	8023.00	10884.92	17303.07
Retail - Miscellaneous store r...	0.22	5144.37	10663.13	15988.74
Real estate	0.18	4243.78	11664.94	21811.88
Full-service restaurants	0.05	4734.78	5693.83	7013.93
Services to buildings	0.05	1480.60	1530.63	2181.44
Retail - Gasoline stores	0.05	1049.72	1149.09	2139.09
Limited-service restaurants	0.04	722.92	1742.54	3120.30
Other financial investment activity	0.03	627.55	712.47	4046.36

Lake Tahoe Triathlon Consumer Report

Lake Tahoe triathletes expressed favorable attitudes towards the event, specifically with regards to the event's unique physical environment and course design. Interestingly, the Lake Tahoe participants, like those who competed in Donner Lake, also had relatively low evaluations of the event's atmosphere and ancillary entertainment. It should be noted that this may not be an indictment on the event, but rather an element of triathlons which may not be as pertinent when organized in a location infamous for its natural setting.

Consistent among both triathlons were poor evaluations of "competition" which indicates that this may not be an influential factor in explaining participants' event loyalty. In fact, respondents cited competition as being the least impactful among the nine factors examined. These findings provide a revealing depiction of triathlon participants' motives for competing.



Demographic Information for Squaw Valley Half Marathon Participants

Demographics for Squaw Valley Half Marathon Sample

Demographic Variable	N	%	Avg.
Sex			
Male	16	42.1	
Female	22	57.9	
Age			34.89
18-25	7	18.4	
26-30	9	23.7	
31-40	10	26.3	
41-50	8	21.1	
51-60	4	10.5	
61-70	0	0	
71+	0	0	
Resident Status			
Local	16	41.0	
Non-Local	23	59.0	
# of Nights Stayed			0.64
0 Nights	10	45.5	
1-2 Nights	12	54.5	
3-4 Nights	0	0	
5+ Nights	0	0	
Household Income			
<\$25,000	4	10.5	
\$25-60,000	15	38.5	
\$61-\$100,00	5	13.2	
\$101-150,000	10	26.3	
Greater than \$150,000	14	36.8	
Non-disclosed	1		
Lodging Type			
Hotel	4	25	
Friend's House	5	31.3	
Home Rental	1	6.3	
Camping	1	6.3	
Other	5	31.3	

Squaw Valley Half Marathon Economic Impact Analysis

The event's **Total Economic Impact** represents the initial direct spending attributable to non-local participants, as well as the residual effect it has on the region's economy. The residual spending which occurs as a result of the direct spending of visitors participating in the Squaw Valley Half Marathon is measured by assessing both indirect and induced effects. **Indirect Effects** are a product of additional spending (jobs, materials, etc.) which occurs by local businesses as a result of improved commerce due to the event. **Induced Effects** reflect additional spending that occurs by resident employees as a result of added wages attributable to the event's existence. The table at the bottom of the page illustrates the triathlon's impact on:

- **Employment** – Number of annual full time jobs supported by the triathlon
- **Labor Income** – Amount of added income for existing employees
- **Total Value** – True profits after accounting for employment, taxes, and other ordinary expenses
- **Output** – Total revenues derived from the Squaw Valley Half Marathon

Table 1. Participant Breakdown

	Survey Respondent Frequencies	Actual Athlete Participation	Actual Percentage of Local vs. Non Local Athletes
Local Athletes	16	89	49%
Non Local Athletes	23	59	51%
Total Athletes	39	183	100%

Itemized and Total Expenditures of Participants and Travel Party			
Expenditure Category	Avg. Spent per Participant	Avg. Spent per Party	Total Per Category
Food	\$51.52	\$58.22	\$3,447.76
Lodging (L)	\$57.95	\$65.49	\$3,878.23
Transportation (T)	\$17.61	\$19.90	\$1,178.35
Shopping (S)	\$18.41	\$20.80	\$1,231.91
Other (O)	\$5.05	\$5.70	\$337.78
Total Spent Per Party (TSPP) (F+T+S+O)	\$170.11		
Total Direct Impact	\$10,074.03		

Economic Impact Summary				
Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	0.14	3,867.57	4,580.48	7,949.90
Indirect Effect	0.01	612.23	931.13	1,871.63
Induced Effect	0.02	694.68	1,288.57	2,357.46
Total Effect	0.17	5,174.48	6,800.18	12,178.99

- A total economic stimulus of \$12,179 can be attributed to the Squaw Valley Half Marathon

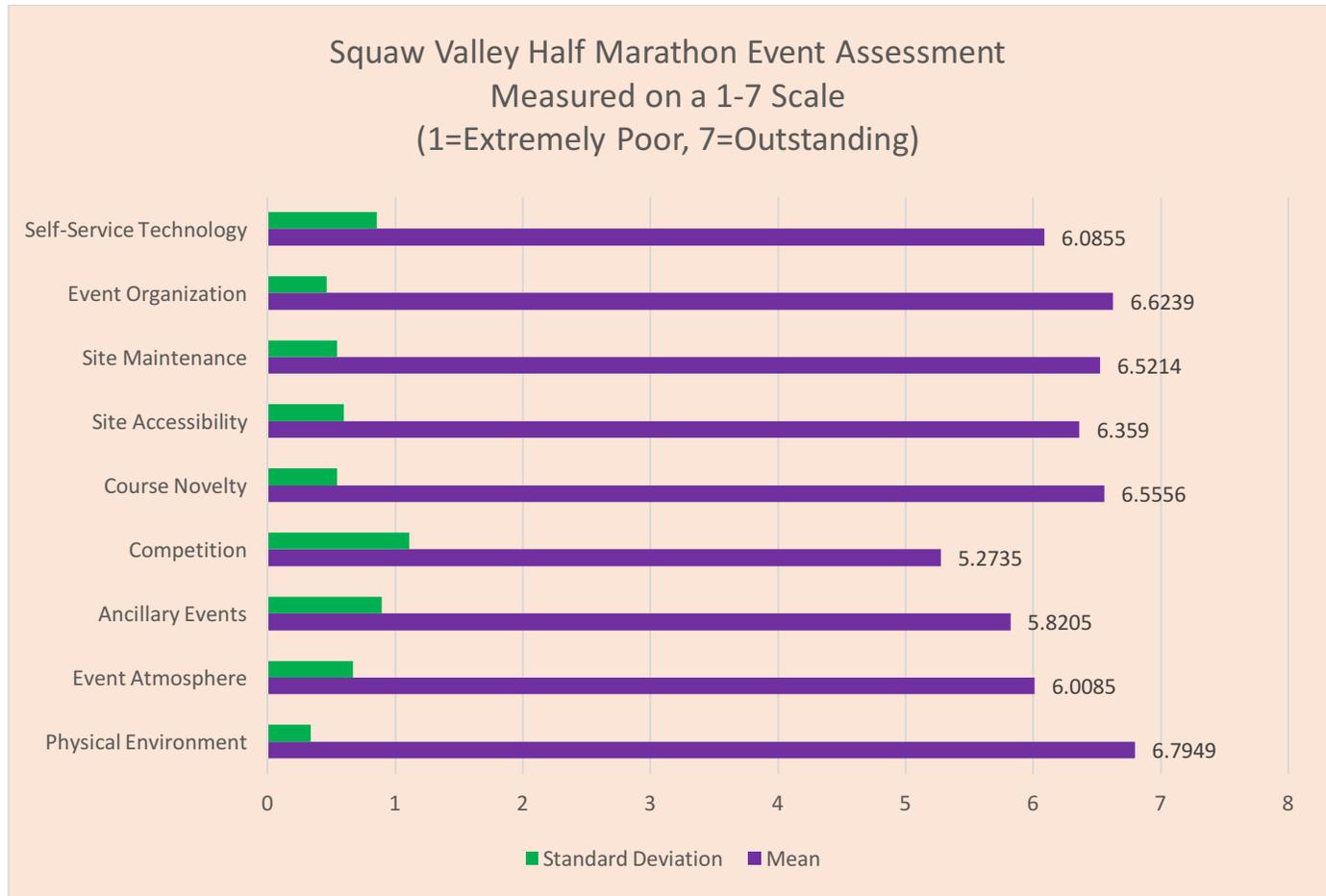
These values reflect the “ripple effects” the Squaw Valley race has on particular industries in the Lake Tahoe region. It should be noted that Total Employment reflects a multiplier value indicating that the creation of 1.0 new direct jobs as a result of the event will result in 1.0 jobs in the local economy. Based on the data below, expenditures related to the half marathon support the creation of less than one job and contribute minimally to the local economy.

Top 10 industries which received the greatest economic stimulus from the Squaw Valley event

Description	Total Employment	Total Labor Income	Total Value Added**	Total Output*
All other food and drinking places	0.09	2414.68	2002.25	3483.09
Hotels and motels, including c...	0.04	1206.63	2170.48	3881.46
Retail - General merchandise s...	0.01	118.50	245.61	368.28
Retail - Miscellaneous store r...	0.00	84.23	114.27	181.65
Real estate	0.00	108.97	299.54	560.09
Full-service restaurants	0.00	27.62	30.23	56.28
Retail - Gasoline stores	0.00	107.40	129.15	159.09
Services to buildings	0.00	37.13	38.39	54.71
Limited-service restaurants	0.00	19.04	45.88	82.16
Other financial investment activities	0.00	16.65	18.90	107.33

Squaw Valley Half Marathon Consumer Report

Like the aforementioned events, the physical environment was the greatest cause of participants' positive perceptions of the event. However, what distinguished this event from the others, were greater assessments of event functionality aspects, such as event organization, site maintenance, site accessibility, and self-service technology. The Squaw Valley Half Marathon outperformed each of the other events analyzed in this report by statistically significant margins in this regard. This event was also assessed as being the event with the greatest atmosphere and distinctiveness (course novelty).



About the Authors

Eric Hungenberg, Ph.D. is an assistant professor of Sport and Leisure Services Administration at the University of Tennessee at Chattanooga. His background working as a practitioner in sport involved overseeing and marketing destination sport events. His research agenda is geared towards understanding sport commitment, and examining the relationship between a consumer's emotional connection to location and sport-related consumption. He can be contacted at Eric-Hungenberg@utc.edu

Andrew W. Bailey, Ph.D. is program coordinator and assistant professor of the Sports and Leisure Services Administration program at UTC. He also founded the UTC Tourism Center and regularly conducts research on the impacts of recreation and sport-related tourism in the Chattanooga region. When not in the office, he can be found playing outside with his wife and little girl. He can be contacted at Andrew-Bailey@utc.edu