



2003

Personality Profiles of Iditasport Ultra-marathon Participants

Kristin J. Stuempfle
Gettysburg College

Sherri Lind Hughes
McDaniel College

H. Samuel Case
McDaniel College

See next page for additional authors

Follow this and additional works at: <https://cupola.gettysburg.edu/healthfac>

 Part of the [Other Medicine and Health Sciences Commons](#), and the [Personality and Social Contexts Commons](#)

Share feedback about the accessibility of this item.

The definitive version was published as Hughes, S., Case, S., Stuempfle, K., and D. Evans. Personality profiles of Iditasport ultramarathon participants. *Journal of Applied Sport Psychology* 15:258-263, 2003. <http://dx.doi.org/10.1080/10413200305385>

This is the author's version of the work. This publication appears in Gettysburg College's institutional repository by permission of the copyright owner for personal use, not for redistribution. Cupola permanent link: <https://cupola.gettysburg.edu/healthfac/6>

This open access article is brought to you by The Cupola: Scholarship at Gettysburg College. It has been accepted for inclusion by an authorized administrator of The Cupola. For more information, please contact cupola@gettysburg.edu.

Personality Profiles of Iditasport Ultra-marathon Participants

Abstract

Each February, competitors convene in Big Lake, Alaska, to participate in the “Iditasport Human Powered Ultra-Marathon”. Who would attempt this challenging race? Personality might be one factor predicting participation. Iditasport represents a unique athletic event with a distinctive social and psychological climate that might be reflected in the personalities of the participants in many ways. This study was designed to identify the personality profile of Iditasport athletes when compared to normative populations and to explore differences between athletes competing in different race divisions.

Keywords

Iditasport Human Powered Ultra-Marathon, Alaska, personality

Disciplines

Other Medicine and Health Sciences | Personality and Social Contexts

Authors

Kristin J. Stuempfle, Sherri Lind Hughes, H. Samuel Case, and Deborah S. Evans

Running head: PERSONALITY PROFILES OF IDITASPORT ATHLETES

FINAL REVISION

Personality Profiles of Iditasport Ultra-marathon Participants

Sherri Lind Hughes and H. Samuel Case

McDaniel College (founded in 1867 as Western Maryland College)

Kristin J. Stuempfle

Gettysburg College

Deborah S. Evans

Anchorage, Alaska

Author Note:

Sherri Lind Hughes, Department of Psychology; H. Samuel Case, Department of Exercise Science and Physical Education; Kristin J. Stuempfle, Department of Health and Exercise Sciences; Deborah S. Evans, Anchorage, Alaska.

This study was supported in part by grants from McDaniel College and Gettysburg College. The authors wish to thank Jennifer Belbot, Alethea Desrosiers, Amy Horin, Jennifer McKenzie, and Natalie Phelps for their assistance in collecting these data.

Correspondence concerning this article should be addressed to Sherri Lind Hughes, Psychology Department, McDaniel College, 2 College Hill, Westminster, Maryland 21157. Electronic mail may be sent via Internet to shughes@mcdaniel.edu

Personality Profiles of Iditasport Ultra-marathon Participants

Each February, competitors convene in Big Lake, Alaska, to participate in the “Iditasport Human Powered Ultra-Marathon”. The 100-mile race takes place over trails that wind through the Alaskan wilderness. Weather and trail conditions vary considerably from year-to-year ranging from relatively warm sunshine and temperatures that create slushy conditions to bitter cold or heavy snow. Participants compete on the same 100-mile course using one of four methods of transportation: foot, snowshoes, cross-country skis, or bicycle, and must complete the race within 48 hours. Though there are five checkpoints along the course, participants must carry their own survival gear and food by pulling it in a sled, packing it on their backs, or by attaching it to their bicycles. The minimum weight for this gear and food is 15 pounds but many participants transport as much as 35 to 40 pounds over the 100-mile course (Alaska Iditasport).

Who would attempt this challenging race? Personality might be one factor predicting participation. Although several studies have attempted to develop personality profiles distinguishing athletes from non-athletes and athletes participating in various sports from each other, results have generally been inconsistent and even contradictory (Colley, Roberts & Chipps, 1985; Dowd & Innes, 1981; Egloff & Gruhn, 1996; Eysenck, Nias & Cox, 1982; Geron, Furst & Rotstein, 1986; Gill, 2000; Hartman & Rawson, 1992; Weinberg & Gould, 1995). Iditasport, however, represents a unique athletic event with a distinctive social and psychological climate that might be reflected in the personalities of the participants in many ways. First, the Iditasport race consists of competition in several low risk sports conducted under high-risk conditions of extreme cold and hazardous winter weather. It is not uncommon for heavy snow to fall during the race or for

participants to cross rivers or lakes with open water and overflow. Several studies have shown that sensation seeking scores can be used to predict an individual's choice of sport such as baseball, running, skiing, football, rugby, mountaineering, and gymnastics (Freixanet, 1991; O'Sullivan, Zuckerman & Kraft, 1998; Potgeiter & Bisschoff, 1990; Zuckerman, 1983, 1994). Sensation seeking is defined as "a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal and financial risks for the sake of such experience" (Zuckerman, 1994, p. 27). The most consistent finding from this research is that extreme athletes generally have higher sensation seeking scores than athletes who participate in low-risk sports (Breivick, 1996; Jack & Ronan, 1998; Zaleski, 1984; Zuckerman, 1994).

Second, the Iditasport is an endurance race that requires a significant time commitment and substantial planning for both training and participating in the race. Global personality factors such as extraversion and conscientiousness could predict this type and level of activity. One study found that ultra-marathoners were more competitive and goal oriented than other athletes (Acevedo, Dzewaltowski, Gill & Noble, 1992). In addition, several studies have found that athletes are more extroverted than non-athletes (Colley, Roberts & Chipps, 1985; Egloff & Gruhn, 1996; Eysenck, Nias & Cox, 1982).

Third, finishing or even winning the Iditasport has few extrinsic rewards. Prior to the 2001 race there was no prize money and little press coverage of the event. Intrinsic rewards such as a sense of accomplishment or the thrill and adventure of the Alaskan wilderness are likely to be valued as race outcomes. Studies of non-elite athletes often indicate that one reason individuals begin participating in a sport is because they are seeking personal growth on both physical and psychological dimensions. Athletic

participation is expected to enhance feelings of personal achievement, self-satisfaction, self-confidence, and self-awareness (Summers, Sargent, Levey, & Murray, 1982).

Finishing Iditasport offers those rewards.

Finally, Iditasport is unique because it is four very different races over the same terrain simultaneously. Cyclists may finish in less than 12 hours and spend only a few minutes in each checkpoint. Most runners, however, are out on the course for more than 24 hours and must stop for more extended periods to eat and rest. This race provides a unique opportunity to examine personality differences among athletes participating in the same event, but in different race divisions.

This study was designed to identify the personality profile of Iditasport athletes when compared to normative populations and to explore differences between athletes competing in different race divisions. Our hypotheses were in part guided by the reactions from friends, family, and acquaintances about this race. More specifically, are the individuals who participate in this race dramatically different from the broader population? We also hoped that our findings would address gaps and contradictions in the literature by making comparisons to large normative samples rather than small convenience samples that might exaggerate irrelevant differences. Finally, we expected that the data from this unique race would help to clarify the relationship between risk taking and activity choice. Specifically, are these race participants similar to rugby players and rock climbers or more like marathon runners and weekend cyclists? We expected that race participants would be more extraverted, less neurotic, and more interested in new, different, and even risky experiences than those in the large and diverse

normative groups. In addition, we expected runners to be more risk averse and less extraverted than the cyclists.

Method

Participants

We collected these data as part of a larger multidisciplinary study conducted on participants from the 1998, 1999, and 2000 Iditasport races. In 1998, 28 men and 7 women volunteered for the study including 14 cyclists, 17 runners, 3 skiers, and 1 individual on snowshoes. In 1999, we had a total of 22 volunteers (17 men and 5 women) including 11 cyclists, 10 runners, and one individual on snowshoes. In 2000, 28 men and 8 women participated in the study including 15 cyclists, 18 runners and 3 skiers. Because some individuals participated in the race more than once during the three years, our final sample represented a total of 66 racers including 35 runners, 24 cyclists, 5 skiers, and 2 snowshoers. The 48 men and 18 women ranged in age from 21 to 62 ($M=38.7$, $SD=9.2$).

Materials

Form S of the NEO-Five Factor Inventory is a 60-item measure of normal personality traits (extracted from the more comprehensive NEO-Personality Inventory-R) that provides a brief, comprehensive measure of five personality domains: neuroticism, extraversion, openness, agreeableness, and conscientiousness (Costa & McCrae, 1992). Test-retest coefficients estimated from the NEO-PI-R after a 3-month interval range from .75 to .83 for each of the five scales. In addition, internal consistency coefficients range from .68 to .86. Convergent validity has been demonstrated through correlations with the NEO-PI-R and consistency with adjective reports.

Form V of Zuckerman's Sensation Seeking Scale (SSS-V) is designed to measure individual differences in optimal levels of stimulation and arousal using 40 forced-choice items on four scales: thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility (Zuckerman, 1994; 1996). Coefficient alpha for the four scales ranges from .58 to .88. Corrected split-half coefficients range from .56 to .82. Finally, test-retest coefficients range from .70 to .94. Construct validity has been demonstrated using factor analyses indicating consistency between the scale composition and the four-factor model of sensation seeking. A variety of studies also demonstrate the criterion-related validity of the SSS-V using reports of behavior and personal history (Zuckerman, 1994; 1996).

Procedures

At mandatory informational meetings held two days prior to the race, athletes volunteered to participate in this study. During the pre-race meeting participants were asked to complete the NEO-FFI and the SSS-V. During the three years represented in this study, we also collected a variety of additional data before and after the race including the Stroop Color Word Test, the Profile of Mood States, blood samples, measures of weight and percent body fat, and a dietary recall interview (post-race only). In general, the NEO-FFI and SSS-V were completed prior to the other data collection. Because of the stability of the measures, returning volunteers were only asked to complete them once during the three years. The confusion and excitement that characterizes these meeting resulted in several forms being returned with incomplete data; 65 participants provided usable data on the NEO-Five Factor Inventory Form S (Costa & McCrae, 1992) and 54 individuals

completed Zuckerman's (1996) Sensation Seeking Scale (SSS-V). All data collection tools and procedures were reviewed and approved by two institutional review boards.

Scoring and Analysis

In both tests, raw scores are converted to T scores using normative data and scoring keys provided by the test developers. T score conversions for the NEO-FFI were based on a general adult sample of 983 men and women (Costa & McCrae, 1992). T score conversions for the SSS-V were based on a sample of 1217 (410 men and 807 women) students at the University of Delaware between 1986 and 1992 (Zuckerman, 1996). Iditasport participants were compared to the standardization samples using a series of t-tests. To guard against the possibility of an inflated type I error rate the bonferroni technique was applied and significance was defined as $p < .005$.

Results and Discussion

The "Iditasport Human Powered Ultra-Marathon" is a unique and demanding athletic competition. The data from this study suggest similarities among these participants but cannot be interpreted as causal factors. Individuals who have participated in this particular athletic and personal challenge shared several personality characteristics that could facilitate their success in, and enjoyment of the event. Iditasport participants scored significantly higher on both the extraversion ($t = 3.79, p < .005$) and openness ($t = 3.01, p < .005$) scales of the NEO-FFI and the experience seeking scale of the SSS-V ($t = 3.84, p < .005$) when compared to the norm groups. A significant correlation was found between experience seeking and openness scores ($r(53) = .54, p < .05$). These athletes tend to like people, prefer large groups and gatherings, and are often described as active, assertive, energetic, and optimistic when compared to their peers. In addition, the higher

scores on openness and experience seeking indicate that these Iditasport athletes prefer variety, are intellectually curious, and compile rich life experiences. These individuals choose new experiences that may involve danger or risk more often than those in the norm sample. This competition represents a unique and interesting challenge to this group of athletes whose energy, optimism, and curiosity could facilitate their completion of this difficult race. These athletes also scored lower on the disinhibition ($t = -5.47, p < .005$) scale of the SSS-V when compared to the standardization sample. They were less inclined to seek situations in which drugs, alcohol, or social norms are used to reduce personal inhibitions. These situations could have a negative impact on their physical health and their ability to train for this rigorous event.

No significant differences were found on the Neuroticism, Agreeableness and Conscientiousness scales of the NEO-FFI or the Boredom Susceptibility and Thrill and Adventure Seeking scales of the SSS-V. Within group comparisons yielded no significant differences by gender, age, or race division. Table 1 displays the comparison between Iditasport athletes and normative data on the both the NEO-FFI and SSS-V.

These findings are consistent with previous research showing that athletes tend to be more extroverted than do the general population (Colley, Roberts & Chipps, 1985; Egloff & Gruhn, 1996; Eysenck, Nias & Cox, 1982). The energy, optimism, and assertiveness typical of extroverted individuals are likely to be an asset during Iditasport. Surprisingly, though previous research has indicated that athletes tend to have lower levels of neuroticism, these results do not support this finding. This research also contradicts the findings of Acevedo et. al. (1992) characterizing athletes as more goal

oriented than non-athletes. This apparent contradiction may be an artifact of the work-related emphasis on the NEO-FFI Conscientiousness scale.

The findings shed additional light on the relationship between sensation seeking and athletic participation. Prior research has shown that high risk sport participants such as skydivers or mountain climbers have high scores on all aspects of sensation seeking and participants in low risk sports such as marathon running tend to have lower scores on those same dimensions (Zuckerman, 1983, 1994). In contrast, Iditasport participants displayed a unique combination of those traits. The low disinhibition scores are consistent with the training required for an endurance race in these low-risk sports. The challenge of the race environment is attractive to participants who are open to and actively seeking new experiences and excitement.

One concern about these comparisons is the preponderance of young adults included in the norm sample for the SSS-V. Research has shown the highest levels of total sensation seeking among 16-29 year olds and lower levels within older cohorts (Zuckerman 1994; Zuckerman, Eysenck & Eysenck, 1978). Findings for specific subscales are less conclusive. Because these studies have been cross-sectional, it is unclear whether these age differences reflect the learning from additional life experiences, biological changes associated with age, or cohort differences between generations of individuals (Zuckerman, 1994). These observations may suggest that the higher levels of experience seeking found in Iditasport athletes underestimates how these individuals differ from their peers, and the lower levels of disinhibition could be an artifact of the age differences between samples.

Future research should take at least three distinct directions. First while it is useful to understand how these particular athletes differ from the general population, sports psychologists would also benefit from knowing how Iditasport participants differ from or resemble other athletes. The lack of significant differences between participants in the four divisions found in this study may reflect the versatility of these athletes who are not required to declare a division until moments before the race. Second, researchers should direct their efforts toward deciphering the causal factors behind the observed correlations between personality and athletic participation by investigating why people choose to compete in Iditasport and how they change as a result of that participation. Comparisons between first-time participants and race veterans as well as inquiries about the impact of this kind of event on other personal and life experiences should help to uncover how participation in sports affects individuals' personal growth and development.

Finally, personal trainers, sport psychologists, or other fitness professionals might find these results useful when helping individuals choose physical activities that will match their personalities and preferences. Individuals who indicate an interest in exciting, new, and different activities might be well suited to participate in events like the Iditasport. In addition, these athletes might also benefit from training programs that are varied, social, and exciting.

References

- Alaska Iditasport (n.d.). Competition: World Class Ultra Races. Retrieved May 26, 2002, from <http://www.iditasport.com>.
- Acevedo, E. O., Dzewaltoski, D. A., Gill, D. L., & Nobel, J. M. (1992). Cognitive orientations of ultra-marathoners. *The Sport Psychologist, 6*, 242-252.
- Breivik, G. (1996). Personality, sensation seeking and risk taking among Everest climbers. *International Journal of Sports Psychology, 27*, 308-320.
- Colley, A., Roberts, N., & Chipps, A. (1985). Sex-role identity, personality and participation in team and individual sports by males and females. *International Journal of Sport Psychology, 16*, 103-112.
- Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Dowd, R., & Innes, J. M. (1981). Sport and Personality: Effects of type of sport and level of competition. *Perceptual and Motor Skills, 53*, 79-89.
- Egloff, B., & Gruhn, A. J. (1996). Personality and endurance sports. *Personality and Individual Differences, 21*, 223-229.
- Eysenck, H. J., Nias, D. K., & Cox, D. N. (1982). Sport and personality. *Advances in Behavior Research and Therapy, 4*, 1-56.
- Freixanet, M. G. (1991). Personality profile of subjects engaged in high physical risk sports. *Personality and Individual Differences, 12*, 1087-1093.
- Geron, E., Furst, D., & Rotstein, P. (1986). Personality of athletes participating in various sports. *International Journal of Sport Psychology, 17*, 120-135.

- Gill, D. (2000). *Psychological dynamics of sport and exercise* (2nd ed.). Champaign, IL: Human Kinetics.
- Hartman, M. L. & Rawson, H. E. (1992). Differences in and correlates of sensation seeking in male and female athletes and non-athletes. *Personality and Individual Differences, 13*, 805-812.
- Jack, S. J., & Ronan, K. R. (1998). Sensation seeking among high and low risk sports participants. *Personality and Individual Differences, 25*, 1063-1083.
- O'Sullivan, D. M., Zuckerman, M., & Kraft, M. (1998). Personality characteristics of male and female participants in team sports. *Personality and Individual Differences, 25*, 119-128.
- Potgeiter, J., & Bisschoff, F. (1990). Sensation seeking among medium and low-risk sports participants. *Perceptual and Motor Skills, 71*, 1203-1206.
- Summers, J. J., Sargent, G. I., Levey, A. J., & Murray, K. D. (1982). Middle-aged, non-elite marathon runners: A profile. *Perceptual and Motor Skills, 54*, 963-969.
- Weinberg, R. S., & Gould, D. (1995). *Foundations of sport and exercise psychology*. Champaign, IL: Human Kinetics.
- Zaleski, Z. (1984). Sensation seeking and risk-taking behavior. *Personality and Individual Differences, 5*, 607-608.
- Zuckerman, M. (1983). Sensation seeking and sports. *Personality and Individual Differences, 4*, 285-293.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. New York: Cambridge University Press.

Zuckerman, M. (1996). Item revisions in the sensation seeking scale form V. *Personality and Individual Differences, 20*, 515.

Zuckerman, M., Eysenck, S., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross-cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology, 46*, 139-149.

Table 1

Comparison Between NEO-FFI and SSS-V Scores for Iditasport Participants Normative Data.

Scale	<u>Iditasport Participants</u>		<u>Norm Sample</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Neuroticism	46.4	10.5	50	10
Extraversion*	55.1	11.1	50	10
Openness*	54.3	11.7	50	10
Agreeableness	51.3	11.8	50	10
Conscientiousness	51.5	9.9	50	10
Thrill and Adventure Seeking	51.7	8.9	50	10
Experience Seeking*	53.7	7.1	50	10
Boredom Susceptibility	43.1	9.2	50	10
Disinhibition*	47.4	9.4	50	10
Total	48.4	9.0	50	10

*p <.005