10.7: Marvin Zuckerman and the Sensation Seeking Personality Trait

Marvin Zuckerman represents the current approach taken by many psychologists who study traits. He developed an interest in one particular trait, and he has studied that trait in great detail. He called it sensation seeking, and in order to study it carefully he also developed the Sensation Seeking Scale. The study of this trait has enjoyed a certain popular appeal, exemplified by the success of the X Games and, more recently, the popularity of televised mixed martial arts competitions.

Zuckerman was the son of a mechanical engineer who came to America from Russia. His mother’s father had also come from Russia, and both sides of the family had a tradition of their sons becoming rabbis. As a boy, Zuckerman enjoyed playing football, but most of his sensation seeking centered on reading adventure books. He first became interested in psychology when he encountered a book about graphology. When he entered the University of Kentucky, he experienced the “disinhibitory joys of drinking, sex, and hitchhiking around the country” (pg. 46; Zuckerman, 1993). He then suffered a period of depression, during which he discovered the work of Sigmund Freud. He decided to become a psychoanalyst, so, after serving his duty in the army (following World War II), attended New York University. Unfortunately, a bad grade in chemistry made it impossible to get into the medical school of his choice, so he chose to begin the graduate program in clinical psychology at NYU.

Zuckerman found it difficult to find an area of psychology that appealed to him, except for a vague interest in experimental studies that suggested an “exploratory drive,” something we might also call curiosity, in a variety of animal species. Zuckerman also found clinical work unfulfilling, so he began to focus more on conducting research. He spent a few years at a hospital and then a psychiatric research institute in Indiana, where he began studying sensory deprivation (see, e.g., Zuckerman et al., 1962). In contrast to sensory deprivation, he also began to study sensation seeking, its apparent counterpart. After several moves, including the threat of being fired from Adelphi University due to newspaper photos of the college professor arrested and lying in the local jail (following his involvement in a protest against racism), in 1968 he joined the faculty of the University of Delaware. Since he found it difficult to find continued funding for
sensory deprivation research, he began to focus on sensation seeking itself. In 1975, Zuckerman took a sabbatical to work with Hans Eysenck, leading to the publication of some joint papers, and Zuckerman’s eventual contribution to Eysenck’s second *festschrift* (see Zuckerman, 1997). His work on sensation seeking, and his relationship with Eysenck, have led Zuckerman to become one of today’s leading proponents of the biological basis of personality. He retired in 2002, but has remained busy enjoying life, giving talks, writing, and conducting research (Zuckerman, 1983, 1991, 2006).

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**The Sensation Seeking Trait**

Sensation seeking is a trait defined by the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experience...The high-sensation seeker is sensitive to his or her internal sensations and chooses external stimuli that maximize them. (pg. 10; Zuckerman, 1979)

All people seem to seek an optimal level of stimulation and/or arousal. For some, that level of arousal is quite high, for others, it is rather low. The concept was not new when Zuckerman began to study **sensory deprivation** and sensation seeking. Indeed, the examination of **optimal levels of arousal** dates back to the very beginning of psychology: the experimentalist Wilhelm Wundt was studying it as early as 1893 (see Zuckerman, 1979), as were Sigmund Freud and Josef Breuer in 1895 (Freud and Breuer, 1895/2004). Following the “*brainwashing*” techniques used by the Chinese during the Korean War, the Canadian government pursued research on sensory deprivation, work led by D. O. Hebb. Following this early research, Zuckerman began his own investigations. Generally, sensory deprivation leads to increased anxiety, somatic discomfort, and thinking and concentration difficulties. In addition, many of the subjects experienced both auditory and visual hallucinations. None of the effects of sensory deprivation seemed to correlate with any personality variables (Zuckerman et al., 1962). It was because of these profound effects of sensory deprivation that Zuckerman began to pursue the underlying variable that leads individuals to their optimal level of arousal.

The Sensation Seeking Scale has been revised a number of times. The fifth version was developed in collaboration with Hans and Sybil Eysenck, and included comparisons of males to females and American students to English students (see Zuckerman, 1979, 1994). Using factor analysis, Zuckerman and his colleagues have identified four subscales within the sensation seeking trait:

**Thrill and Adventure Seeking:** Many people enjoy engaging in risky sports and other potentially dangerous experiences that produce unique sensations related to speed or defying gravity, such as rock climbing, BASE jumping, or drag racing. This factor is exemplified by the sports included in the X Games.

**Experience Seeking:** This factor encompasses novel sensations and experiences, such as arousing music, art, and travel. It also incorporates social nonconformity, particularly associated with belonging to groups on the fringes of conventional society.

**Disinhibition:** This factor covers sensation seeking that focuses on social activities, such as parties, drinking, illegal drugs, and sex.

**Boredom Susceptibility:** Individuals who score high on this factor cannot tolerate any kind of repetitive experience, including routine work and boring people.
Sensation seeking comes in many forms. Here, the author is hanging from two ice screws about 800 or 900 feet up the alpine route Pinnacle Gulley on Mt. Washington in New Hampshire. The temperature was an invigorating -15°F.

Sensation seeking should not be confused with being reckless. For example, individuals who are high sensation seekers are more likely to have varied sexual experiences, but they are not more likely to avoid using condoms. They may be more inclined to drive fast, but they are not less likely to use their seatbelts. And rock and ice climbers take full advantage of safety gear, they study self-rescue techniques, and they check their gear carefully before each trip. However, adolescence may be a particularly risky time, since there is a temporal gap between the onset of puberty, during which adolescents are highly thrill seeking, and the slow maturation of the cognitive-control systems that govern such behavior in adulthood (Steinberg, 2007). It is also important to note that it is neither good nor bad to score high or low on this scale:

In this sociobiological sense, the high sensation seeker is a hunter and the low sensation seeker is a farmer. Hunters are positively excited by change, danger, and the variety and unpredictability of the hunt. They need a strong capacity to focus attention on the prey while remaining alert to other factors like the direction of the wind and the movements of other hunters. Farmers, in contrast, depend on stability of the environment (rainfall, sun, and other seasonal regularities of climate). Plants grow slowly and require patience and tedious kinds of labor to insure their survival. (pp. 384-385; Zuckerman, 1994)

During the course of his research, Zuckerman found a close relationship between sensation seeking and impulsivity. If he limited his factor analysis to five factors, as Costa and McCrae had, impulsivity and sensation seeking always combined to form a factor that he called impulsive sensation seeking. This proved to be rather curious, since impulsivity was a substrate of neuroticism, whereas “excitement seeking” was a substrate of extraversion. Another problem that Zuckerman expressed with regard to the Five-Factor Model was his belief that words like “conscientiousness” have no meaning in species other than humans. Since Zuckerman favors a biological/genetic basis for personality, there should be evolutionary correlates of any personality structure in other animals, particularly the closely related apes. Thus, Zuckerman examined his data, conducted a factor analysis, and offered an alternative to the Five-Factor Model. His five factors are sociability, neuroticism-anxiety, impulsive sensation seeking, aggression-hostility, and activity (Zuckerman, 2006). While Zuckerman did not intend for his five factors to match those of Costa and McCrae exactly, it is easy to see a relationship between sociability and agreeableness, activity and extraversion, sensation seeking and openness, and neuroticism and neuroticism. Aggression-hostility, however, seems to relate more to Eysenck’s factor psychoticism. Thus, there remains a need for continued research into this field, particularly as it pertains to the evolutionary basis for personality factors, but Eysenck, Costa, McCrae, and Zuckerman have provided an excellent and coherent basis for further research.
The author is highly susceptible to boredom, so he likes to travel to interesting places. Here we see the author in Mt. Washington’s alpine garden (NH) in winter (top left) and above the clouds on Mt. Rainier, Washington (bottom right), and the author’s son walking in the Great Salt Lake in Utah’s desert (top right).

Discussion question

Which areas of Zuckerman’s sensation seeking trait do you find most interesting, and which subscales do you think you would score high on (they may not be the same)? If there are any subscales on which you think you would score either low or high, what impression do you have of people who have an opposite score on those same scales?