TESTIMONY OF TODD BOWMAN, PHD SUPPORTUING HR 6016
Kansas State and Federal Affairs Committee March 2017

Chairman Barker, and honorable members of the State and Federal Affairs Committee, my name is Dr. Todd Bowman. I am an educator and the author of the nation's only accredited Sexual Addiction Treatment Provider Certificate program for licensed mental health practitioners

I rise in support of House Resolution 6016 "Pornography- A Public Health Crisis".

"To prevent unprecedented emotional, psychological, and physical damage to generations born in the digital age, we must first recognize pornography as a public health crisis, and then respond with skillfully prepared and executed intervention." – Gail Dines, PhD

In their work on the Social Costs of Pornography, the Witherspoon Institute in Washington, DC cites that high pornography users were found to score higher on:

- acceptance of the rape myth
- acceptance of violence toward women
- adversarial sex beliefs
- reported likelihood of committing rape and forced sex acts
- sexual callousness

These beliefs have far-reaching social implications, and the purpose of this testimony will be to examine the neurobiological changes associated with pornography consumption that underlie these attitudes. This is especially true in the developmental process of young men and women, who, according to Covenant Eyes, from ages 12-17 comprise the largest demographic of Internet pornography users.

- In his article, neurosurgeon Dr. Donald Hilton borrows the phrase "supranormal stimulus", which is the activating of a natural urge beyond its biological purpose, to describe the impact of pornography on the developing brain. Brain scans show that levels of dopamine spike in the brain during sexual arousal resembles what the brain looks like on heroin (Holstege, 2003), rendering pornography an intrinsically addictive process.

- Repetition with this high excitatory process, especially toward the end of escaping dysphoric emotion, is the foundation of pornography addiction. Neuroscientist Norman Doidge discusses "acquired tastes" in the context of neuroplasticity, which has specific relevance in the formation of the arousal template, meaning that what is seen in pornography shapes the sexual desires of consumers. Further, mirror neurons, discovered by Italian researchers in 2007, cause us to believe that what we see in pornography *is real.* The sexual imaginations of young people are now filled with scenes of abuse, humiliation, violence and rape, as a result. Our collective disdain for "rape culture" should serve as a compelling rationale for identifying pornography as a public health crisis.

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Prolonged pornography viewing over time leads to four notable brain-related changes, as discussed by author Peter Wilson: de-sensitization, sensitization, hypofrontality, and dysfunctional stress circuits.

- De-sensitization can be understood as a numbed response to pleasure. *"*Reduced dopamine signaling and other changes leave the addict less sensitive to everyday pleasures and 'hungry' for dopamine-raising activities and substances. The addict may neglect other interests and activities that were once high priorities" (Wilson, 2014, p. 97).

  De-sensitization is likely the first addiction-related brain change users of pornography will notice. They require more and more stimulation to obtain the same high ('tolerance').

- The second brain-related change to prolonger pornography viewing is sensitization. Sensitization can be defined as *an unconscious super-memory of pleasure that, when activated, triggers powerful cravings*.

  "Rewired nerve connections cause the reward circuit to buzz in response to addiction-related cues or thoughts – the 'fire together wire together' principle. This Pavlovian memory makes the addiction more compelling than other activities in the addict's life" (Wilson, 2014, p. 98).

- Hypofrontality is the third brain-related change, and is best understood as *reduced brain activity in the prefrontal regions, which weakens willpower in the face of strong subconscious cravings.*

  Neuroscientist Dan Siegel states that this region of our neurobiology contributes to empathy, insight/self-awareness, impulse control, attenuated communication, intuition, emotional balance and morality, to name a few. Hypofrontality would suggest impairment with the quality and consistency of these characteristics.

- The final brain-related change according to Wilson leads to dysfunctional stress circuits, *which can make even minor stress lead to cravings and relapse because they activate powerful sensitized pathways.* This process leaves the individual more in need of pornography, or other addictive behaviors, I an effort to manage their emotions. This can result in what Pat Carnes describes as "addiction interaction disorder", or what Marina Robinson calls "cross tolerance". Once the brain adopts one addictive behavior, the onboarding of further addictions with limited exposure happens more and more easily.

In sum total, the neurobiology of pornography stands in clear and unwavering support of the claims purported by House Resolution 6016.

Respectfully submitted,

Todd Bowman, PhD