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How Are Other First-World Nations Suppressing the Adverse Consequences of Violence and Youth Sex in the Modern Media Environment?: To the Editor

Douglas A. Gentile and Craig A. Anderson

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How Are Other First-World Nations Suppressing the Adverse Consequences of Violence and Youth Sex in the Modern Media Environment?

To the Editor.—

The recent studies published in *Pediatrics* linking adverse effects among teenagers after exposure to media with high levels of sexual and violent content noted but did not adequately explore and explain the exceptionally high levels of these problems in the United States vis-à-vis other first-world nations.^{1,2} The latter are enjoying markedly better levels of societal dysfunction as measured by adolescent gonorrhea and syphilis infections, abortion and pregnancy, and homicide, including school murder sprees,^{3–6} although the populations of advanced democracies are exposed to broadly consistent levels of media sexual and violent content.⁷ If anything, attitudes concerning sexuality are even more open in some Western nations than in the United States, with greater nudity in public settings and advertising being considered acceptable.

If media exposure is a predominant factor in determining levels of youth sexuality and violence, then the resulting levels of dysfunction should be roughly similar in first-world nations. That they are not suggests that other factors are more efficacious at ameliorating levels of these social ills. Elevated levels of popular religiosity are apparently not among the reliably effective factors, because the United States is the most theistic first-world country, and the levels of dysfunction are unusually low in the least religious nations.^{3–6} Because benign socioeconomic conditions strongly suppress the mass religiosity of a country's population, the latter cannot improve the former on a national scale.^{3,5,6} The abstinence-only education policies prompted by elements of the American religious right seem to be less effective than the pragmatic comprehensive sex education

(which emphasizes condom use regularly) used in most prosperous democracies.^{5,8} Handgun controls may inhibit the worst consequences of physical violence.

Parental action is always important, but what national actions are advisable? It is questionable whether legally or socially controlling media content to the extent necessary to significantly reduce the adverse impact on the population is practical in modern democracies that place high value on the free market of ideas and commerce, all the more so because corporate interests favor minimal restraints on their mercantile efforts.⁵ Because most advanced nations have achieved remarkably low levels of these social ills without resorting to suppressing free expression, the American body politic should consider using similar methods including effective sex education, controls on lethal weapons (to the degree allowed by the 2008 Supreme Court decision), and the beneficial socioeconomic conditions that are associated with high levels of income equality and security.⁹

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To the Editor.—

We thank Mr Paul for his thoughtful comments. He noted that our study of violent video game effects on American and Japanese children¹ did not explain population differences in violence rates between cultures. It was not designed to do so. We mentioned the different rates because some have argued that the lower Japanese rate implies that their children are less affected by media violence. Our study controlled for children's overall aggression and demonstrated that the game effect on aggression was significant and of similar magnitude across culture. Three new longitudinal studies on European

children demonstrated similar results.²⁻⁴ This is not surprising; children the world over learn attitudes, beliefs, and behaviors using the same basic learning processes. Note that this is an individual psychological effect, not a population-level effect.

Mr Paul suggested that if media is an important factor, then societal violence should be equal among first-world nations. This is logically incorrect. It assumes that all nonmedia causal risk factors are identical between countries and that media violence exposure is equal. There are many known risk factors for aggression,^{5,6} and many differ among first-world nations. For example, poverty rates, availability of weapons, prenatal nutrition, and family, community, and cultural contexts differ greatly. Media violence is like any health risk. For example, numerous environmental and personal risk factors increase the likelihood of heart disease, but it is still important to know about each of them if you want to understand the disease and want to take action to reduce individual risk.

Another common criticism is that media violence studies fail to measure other “third” variables that might be relevant. No study can measure everything, which is why it is important to measure previous aggression. For example, aggressive parents can increase child aggression. But, by controlling for the level of child aggressiveness at time 1, we also control for all additional variables that might have contributed to that aggressiveness. Therefore, finding that violent video game exposure at time 1 predicts aggression at time 2 even after controlling for time 1 aggressiveness constitutes strong evidence. In conjunction with many other studies, our results suggest that this criticism is not particularly valid, especially because other studies have measured those variables and still found the effect!^{2,3,5} In fact, the study that measured the most other variables found the largest video game effect,³ suggesting that not measuring other variables makes it less likely to find effects by increasing statistical “noise.”

Ultimately, media violence is only one part of the puzzle—neither the largest nor the smallest—but an important part. Unlike other risk factors for aggression, however, this one is fairly simple to reduce.

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Clinical Prediction Rules for Meningitis in Children Pretreated With Antibiotics

To the Editor.—

We read with interest the retrospective cohort analysis by Nigrovic et al¹ regarding the effect of antibiotic pretreatment on cerebrospinal fluid (CSF) biomarkers of bacterial meningitis. We appreciate the research committee's commitment to investigating a very rare and difficult-to-study condition. However, we do have some questions regarding the interpretation of their data.

The authors previously published a prediction rule to assist clinicians in classifying patients with CSF pleocytosis, defined as a CSF white blood cell count (WBC) of ≥ 10 cells per μL , as being at high or low risk of having bacterial meningitis. Patients were considered to be at low risk if they did not exhibit any of the following features: a positive CSF Gram stain, a CSF absolute neutrophil count (ANC) of ≥ 1000 cells per μL , CSF protein count of ≥ 80 mg/dL, peripheral blood ANC of $\geq 10\,000$, and a history of seizure before or at the time of presentation.² This decision rule has been retrospectively validated in patients since the introduction of conjugate bacterial vaccines against *Haemophilus influenzae* type B and *Streptococcus pneumoniae*.³

In the current study, the authors noted that the Gram-stain results for patients with antibiotic pretreatment and those without pretreatment were essentially identical (62% vs 63%; $P = .86$). In addition, the CSF WBC and CSF ANC of patients with antibiotic pretreatment of any time interval did not statistically differ from those patients without pretreatment. The committee stated that the study “might have been underpowered to detect true differences in CSF WBC counts or CSF ANCs according to pretreatment duration.”¹ Was a power analysis performed?

Unlike CSF WBC and ANC, CSF glucose did significantly differ from those patients with antibiotic pretreatment and those without. However, CSF glucose was not included in their previous clinical decision rule, because it lacked sensitivity and specificity. In today's clinical practice, CSF glucose is little more than an interesting aside in regard to the diagnosis of bacterial meningitis.

Like CSF glucose, CSF protein also differed significantly in patients exposed to antibiotics within 72 hours of their lumbar puncture when compared with those patients who were not. Unlike CSF glucose, a CSF protein level of ≥ 80 mg/dL was included as a clinical pre-

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