

Profanity in Media Associated With Attitudes and Behavior Regarding Profanity Use and Aggression

AUTHORS: Sarah M. Coyne, PhD, Laura A. Stockdale, MSc, David A. Nelson, PhD, and Ashley Fraser, BSc

School of Family Life, Brigham Young University, Provo, Utah

KEY WORDS

media, profanity, swearing, adolescents, physical aggression, relational aggression

www.pediatrics.org/cgi/doi/10.1542/peds.2011-1062

doi:10.1542/peds.2011-1062

Accepted for publication Jul 18, 2011

Address correspondence to Sarah M. Coyne, PhD, School of Family Life, Brigham Young University, JFSB 2087, Provo, UT 84602. E-mail: smcoyne@byu.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2011 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: *The authors have indicated they have no financial relationships relevant to this article to disclose.*



WHAT'S KNOWN ON THIS SUBJECT: Exposure to profanity in the media is a problem acknowledged by society, parents, and the industry. However, research has not examined the relationship between exposure to profanity in the media and subsequent behavior in adolescents.



WHAT THIS STUDY ADDS: This study is the first of its kind to reveal any harmful relationship between exposure to profanity in media and attitudinal and behavioral outcomes among adolescents.

abstract

FREE

OBJECTIVE: We hypothesized that exposure to profanity in media would be directly related to beliefs and behavior regarding profanity and indirectly to aggressive behavior.

METHODS: We examined these associations among 223 adolescents attending a large Midwestern middle school. Participants completed a number of questionnaires examining their exposure to media, attitudes and behavior regarding profanity, and aggressive behavior.

RESULTS: Results revealed a positive association between exposure to profanity in multiple forms of media and beliefs about profanity, profanity use, and engagement in physical and relational aggression. Specifically, attitudes toward profanity use mediated the relationship between exposure to profanity in media and subsequent behavior involving profanity use and aggression.

CONCLUSIONS: The main hypothesis was confirmed, and implications for the rating industry and research field are discussed. *Pediatrics* 2011;128:867–872

Both public opinion¹ and research²⁻⁴ support the assumption that profanity in many types of media is increasing over time. Although we measure profanity in media and devise ratings for media to keep children away from profanity, research rarely has assessed whether exposure to profanity in media has any measurable effects on behavior and attitudes. Therefore, this study examined the relationships between exposure to profanity in various types of media and both profanity use and aggressive behavior.

Profanity use is rife in media.^{3,5} In an attempt to reduce the exposure of children and adolescents to profanity, producers of television programs containing profanity may choose to assign an L rating, which shows that the program contains language that might not be appropriate for some age groups.⁶ Several “dirty words” are banned from general broadcasting; indeed, stations that even accidentally show material that uses such words often are sanctioned by the Federal Communications Commission or are required to pay substantial fines.⁷ For movies, the use of certain swear words may result in an R rating; such movies are restricted for children younger than 17 years of age unless they are accompanied by a parent. The Motion Picture Association of America also has added descriptive information regarding profanity under the ratings themselves.⁸ In addition, both the music industry⁹ and the video game industry¹⁰ take profanity use into account when assigning ratings.

Given the efforts taken to inform parents and to protect younger viewers from exposure to profanity, it might be asked why exposure should be limited at all. Adolescents and children certainly are exposed to profanity on playgrounds and in schools; why is society so concerned with limiting exposure in media? From a theoretical standpoint, exposure to profanity in media might

have effects on attitudes and behaviors.

Indeed, several different learning theories would suggest such effects. For example, according to the general learning model,¹¹ exposure to profanity in media could activate profanity-related scripts in memory and increase the likelihood that individuals would use profanity right after exposure. In the long-term, scripts regarding profanity might be created and strengthened, which would increase the likelihood of profanity use. Adolescents and children might be particularly vulnerable to these effects, because behavioral constructs are still being developed during these formative years.

More broadly, people generally are uncomfortable with profanity use in professional and personal situations^{12,13} and experience negative physiologic responses, such as increased heart rate or shallow breathing, when exposed to profanity.¹⁴ Experimental studies found that when authority figures used profanity in the presence of their subordinates, the latter were less likely to be compliant with the former's wishes and requests.¹⁵

The use of profanity also is related to aggressive behavior. For example, profanity use has been associated with more-hostile personalities, as well as other forms of aggression.^{15,16} Profanity use often is included as an item on problem behavior scales for children and adolescents.¹⁷ Furthermore, other studies have found that exposure to profanity can induce a numbing effect on normal emotional responses.¹⁸ Researchers also have shown that, when profanity is used with the intent to harm or to belittle another, the offender subsequently is less disturbed by exposure to profanity in general.¹⁹

Although studies provide insight into why society is concerned with profanity use, most do not probe associations between actual behavior and exposure

to profanity in media. The lack of research on this topic is very interesting, when seen from a ratings standpoint. For example, the Motion Picture Association of America generally bases ratings on 4 main criteria, namely, (1) profanity use, (2) violence, (3) sexual behavior, and (4) substance use.²⁰ Hundreds of studies have shown links between exposure to violence,²¹ sexual behavior,²² and substance use^{23,24} in media and subsequent behavior; however, we did not find a single study examining the effects of exposure to profanity in media on actual profanity use. Therefore, the purpose of the current study was to provide an initial examination of the relationship between exposure to profanity in media and behavior. Importantly, we examined exposure to profanity in multiple types of media (television and video games). We predicted that exposure to profanity in media would be positively related to both profanity use and more-positive attitudes regarding profanity. Furthermore, given the link between profanity and aggression, we also predicted that exposure to profanity in media would be related indirectly (through attitudes) to aggressive behavior. We predicted that we would observe this association even when we controlled for exposure to aggression through the same sources.

METHODS

Participants

Participants were 223 middle school students (87 boys and 135 girls; no response: $n = 1$) from a large Midwestern middle school. The mean age was 12.58 years (range: 11–15 [SD: 1.02]). Participants completed a series of questionnaires, as described below.

Procedures

Aggression

Physical aggression was measured with 5 items (eg, “I hit, kick, or punch

others”), and relational aggression was measured with 4 items²⁵ (eg, “I have tried to damage [a] person’s reputation by gossiping about that person”). Each item was measured with a 5-point Likert scale from never true (score of 1) to almost always true (score of 5). Both scales showed good reliability (physical: $\alpha = .86$; relational: $\alpha = .82$).

Profanity in Media

Participants identified their 3 favorite television programs and video games. Participants then rated each of them with respect to the amount of profanity. Frequency of profanity use was measured on a 7-point Likert scale.²⁶ To assess reliability, ~10% of self-ratings were compared with either previously conducted content analyses or ratings based on profanity use in television programs and video games.^{2,27} Comparisons revealed good reliability for each medium type (video games: $\kappa = 0.84$; television: $\kappa = 0.73$).

Beliefs About Profanity

This scale included 4 items (eg, “I think it is okay for me to use profanity in my conversations”), measured on a 5-point Likert scale (1 = never true to 5 = almost always true). Cronbach’s α was .72.

Profanity Use

Five items measured actual profanity use (eg, “I use profanity in my conver-

sations with my friends”), also measured on a 5-point Likert scale (1 = never true to 5 = almost always true). Reliability again was acceptable ($\alpha = .85$). Both profanity scales (beliefs and use) were created for this study.

Time With Media

Participants also listed the number of hours spent playing video games and watching television on an average weekday and weekend day. These results were aggregated into an overall score of weekly time with media, which was used as a control variable in subsequent analyses.

Aggression in Media

To control for exposure to violence in media, participants also rated their favorite television programs and video games with respect to physical and relational aggression²⁶ (on a 7-point Likert scale from 1 = none to 7 = a very large amount). Ratings for each type of media were aggregated into overall exposure to physical aggression and exposure to relational aggression in media.

RESULTS

Bivariate correlations showed that exposure to profanity in all types of media was positively associated with attitudes regarding profanity, profanity use, and physical and relational aggression (Table 1). A structural model

using the maximum-likelihood method was estimated by using Analysis of Moments Structure (AMOS) 19 software²⁸ to assess the relationships between profanity in adolescents’ favorite media, their beliefs about profanity use, their own profanity use, and their use of physical and relational aggression. Overall use of media and both physically and relationally aggressive content in media were controlled for in the final model, because each showed associations with aggressive behavior in previous research.^{21,29} Fig 1 provides a visual representation of the model. For comparison with an alternative model fit, the appropriate fit statistics are provided ($\chi^2_6 = 5.06$; $P = .54$; Tucker-Lewis index: 1.00; comparative fit index: 1.00; root mean square error of approximation: 0.00).

The results of the analysis revealed that exposure to profanity in television (standardized regression weight: 0.40) and video games (standardized regression weight: 0.23) was significantly related to beliefs about profanity. The model also revealed that beliefs about profanity were significantly related to profanity use (standardized regression weight: 0.52). Finally, profanity use was significantly associated with both physical (standardized regression weight: 0.63) and relational (standardized regression weight: 0.58) aggression. Preliminary analyses revealed that there was no

TABLE 1 Descriptive Statistics and Correlations Among Study Variables

	Descriptive Statistics, Mean \pm SD	Correlation Coefficient							
		2	3	4	5	6	7	8	9
1. Profanity in television, score	2.73 \pm 1.47	0.49 ^a	0.50 ^a	0.46 ^a	0.43 ^a	0.30 ^a	0.36 ^a	0.66 ^a	0.71 ^a
2. Profanity in video games, score	2.59 \pm 1.90	—	0.41 ^a	0.38 ^a	0.36 ^a	0.35 ^a	0.18	0.56 ^a	0.61 ^a
3. Normative beliefs about profanity, score	2.76 \pm 0.95	—	—	0.63 ^a	0.46 ^a	0.32 ^a	0.08	0.36 ^a	0.41 ^b
4. Profanity use, score	1.67 \pm 0.85	—	—	—	0.70 ^a	0.58 ^a	0.21 ^a	0.32 ^a	0.43 ^a
5. Physical aggression, score	1.50 \pm 0.72	—	—	—	—	0.56 ^a	0.28 ^b	0.42 ^a	0.38 ^a
6. Relational aggression, score	1.54 \pm 0.72	—	—	—	—	—	0.17	0.26 ^a	0.39 ^a
7. Time spent with media, h/wk	103.42 \pm 71.58	—	—	—	—	—	—	0.27 ^a	0.35 ^a
8. Physical aggression in media, score	2.97 \pm 1.53	—	—	—	—	—	—	—	0.67 ^a
9. Relational aggression in media, score	2.72 \pm 1.40	—	—	—	—	—	—	—	—

^a $P < .01$.

^b $P < .05$.

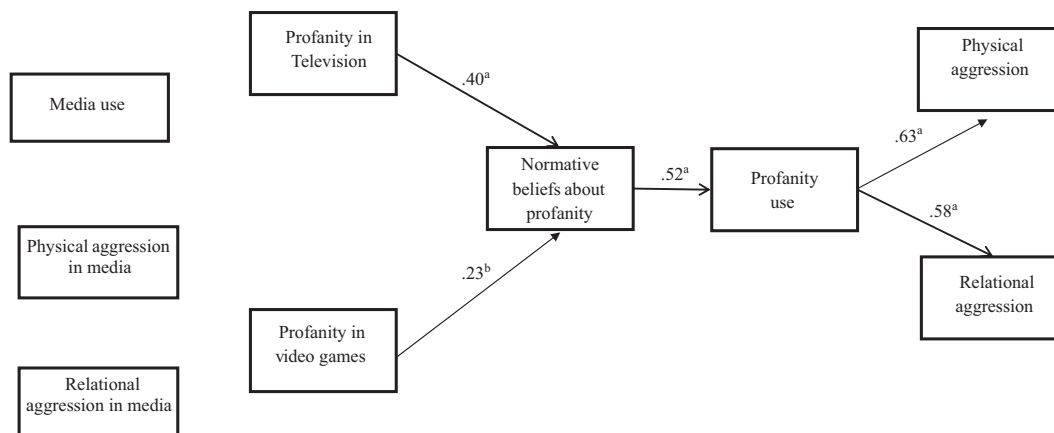


FIGURE 1

Associations between profanity in media, beliefs about profanity, profanity use, and physical and relational aggression. Numbers represent standardized regression weights. For clarity, not all paths are shown, particularly for control variables. ^a $P < .001$; ^b $P < .05$.

direct relationship between profanity in media and actual aggression; therefore, mediation analyses were conducted with intervening variables. Maximal likelihood bootstrapping with a 95% confidence interval³⁰ was used to test mediating relationships. With the use of the bias-corrected percentile method, this test revealed that all of the standardized indirect (mediated) effects within the model were significant ($P < .05$). Therefore, profanity use is a mediator of physical and relational aggression and beliefs about profanity, and beliefs about profanity represent a mediator of profanity exposure in multiple types of media and concurrent profanity use.

It is possible that more-aggressive adolescents simply consume more media containing profanity and use more profanity in their own relationships. To account for this possibility, an alternative path analysis was conducted with Amos,²⁸ to determine the appropriateness of the suggested model. Paths were drawn by using the current model but reversing the direction of the paths. Several path weights (especially between beliefs about profanity and profanity in media and also between aggression and profanity use) decreased markedly in size. Also, the fit for the alternative model was worse

than the fit for the original model ($\chi^2_6 = 22.01$; $P < .001$; Tucker-Lewis index: 0.85; comparative fit index: 0.98; root mean square error of approximation: 0.11). Similarly, the Akaike information criterion and Browne-Cudeck criterion were higher for the alternative model, which suggests that the original model is more appropriate for the data (original model: Akaike information criterion: 101.06; Browne-Cudeck criterion: 105.59; alternative model: Akaike information criterion: 118.01; Browne-Cudeck criterion: 122.54).

DISCUSSION

To our knowledge, this is the first study to examine relationships between exposure to profanity in media and attitudes and behavior regarding profanity among adolescents. Specifically, we found that self-reported exposure to profanity on television and in video games was related to more-supportive attitudes regarding profanity use. Beliefs about profanity, in turn, were related to increased profanity use, which by extension was significantly related to both physical and relational aggression. These findings provide support for the general learning model in regard to profanity.¹¹ It seems that, as adolescents are ex-

posed to profanity in their favorite media, they internalize and solidify mental scripts and schemas in support of profanity use. Such schemas then might lead to increased profanity use in real life.

In addition, the use of profanity was associated with both physical and relational aggression. Although some studies found a link between profanity use and physical aggression,^{14,15} this is the first study, to our knowledge, to find associations with relational aggression. This provides additional evidence that profanity use is related to several harmful behaviors during adolescence.¹⁷ Profanity use sometimes can represent aggressive behavior; therefore, it is not surprising that use is associated with aggression subtypes. More importantly, our findings show that exposure to profanity in media is indirectly related (through attitudes and actual profanity use) to both relational and physical aggression. It should be noted that these results held even with controlling for exposure to physical or relational aggression in various forms of media, variables shown to be related to such behavior in real life.³¹

These findings provide continued support for ratings and content

warnings regarding profanity use in media. Such warnings exist for television programs, although, according to content analyses of profanity,^{3,5} there are many times when programs contain profanity but do not receive the appropriate rating. As a whole, the television industry should aspire to be more accurate with ratings concerning profanity. In addition, profanity in television is becoming more frequent, even in “family-friendly” programs.⁵ Such a trend is troubling, especially when taken in the context of our results.

Similarly, content warnings regarding profanity exist for video games; however, they do not account for profanity use in the “live” component of the games (in which participants can chat with each other). Indeed, game producers have little control over the use of profanity during such sessions. Therefore, adolescents might be exposed to vast amounts of profanity while playing video games that might be fairly innocuous according to their ratings. Game descriptions should include warnings to parents regarding exposure to profanity or other ques-

tionable conversation through this route.

It should be noted that this study has several limitations. Importantly, all results were correlations, and causation could not be determined. Future researchers should examine these associations in experimental settings. In addition, this study represents only 1 sample of adolescents in 1 area; other research should continue to examine these relationships with larger samples and in diverse cultures. Similarly, the direction of effect regarding profanity use and aggression is unclear. Although we tried to examine this possibility by using alternative models, longitudinal research should continue to examine these associations, because the current analyses do not provide evidence of causation. Furthermore, we tested only 1 alternative model; future research should continue to examine other alternative paths and other alternative factors that might influence profanity and aggressive behavior. In addition, we used adolescent self-ratings of media and aggression in the study. Although we compared the ratings of media with more-objective ratings (content analy-

ses or ratings), future research could develop more-comprehensive and less-subjective indices of profanity exposure and aggression. Finally, we examined profanity use in only 2 types of media; future research could examine how exposure to profanity in movies, music, magazines, or books might influence attitudes and behavior.

CONCLUSIONS

Despite the study's limitations, it greatly adds to the literature on profanity in media. It is the first study, to our knowledge, to reveal that exposure to profanity in media is associated with harmful outcomes for adolescents. Parents and policy-makers should consider the appropriateness and implications of adolescents' exposure to profanity in media.

ACKNOWLEDGMENTS

We thank the Quinn Foundation and the Family Studies Center at Brigham Young University, which provided financial support for this project.

We thank Drs Dimitri Williams and James Ivory for allowing us access to their content analysis of video games.

REFERENCES

- Dufrene DD, Lehman CM. Persuasive appeal for clean language. *Bus Commun Q.* 2002; 65(1):48–55
- Ivory JD, Williams D, Martins N, Consalvo M. Good clean fun? A content analysis of profanity and its prevalence across game systems and ratings. *Cyberpsychol Behav.* 2009;12(4):457–460
- Kaye BK, Sapolsky BS. Watch your mouth! An analysis of profanity uttered by children on prime-time television. *Mass Commun Soc.* 2004;7(4):429–452
- Cressman DL, Callister M, Robinson T, Near C. Swearing in the cinema: an analysis of profanity in US teen-oriented movies, 1980–2006. *J Child Media.* 2009;3(2):117–135
- Kaye BK, Sapolsky BS. Taboo or not taboo? That is the question: offensive language on prime-time broadcast and cable programming. *J Broadcast Electron Media.* 2009; 53(1):22–37
- Hogan M. Parents and older adults: models and monitors of healthy media habits. In: Singer DL, Singer JL, eds. *Handbook of Children and the Media.* Thousand Oaks, CA: Sage; 2001:663–680
- Federal Communications Commission. Obscenity, indecency and profanity. Available at: www.fcc.gov/cgb/consumerfacts/obscene.html. Accessed March 25, 2011
- Motion Picture Association of America. How to read a rating. Available at: www.mpa.org/ratings/how-to-read-a-rating. Accessed October 4, 2011
- Federman J. *Media Ratings: Design, Use, and Consequences.* Studio City, CA: Mediascope; 1996
- Gentile DA, Humphrey J, Walsh DA. Media ratings for movies, music, video games, and television: a review of the research and recommendations for improvements. *Adolesc Med Clin.* 2005;16(2):427–446
- Buckley KE, Anderson CA. A theoretical model of the effects and consequences of playing video games. In: Vorderer P, Bryant J, eds. *Playing Video Games: Motives, Responses, and Consequences.* Mahwah, NJ: Erlbaum; 2006:363–378
- Johnson DI, Lewis N. Perceptions of swearing in the work setting: an expectancy violations theory perspective. *Commun Rep.* 2010;23(2):106–118
- Jay T. The utility and ubiquity of taboo words. *Perspect Psychol Sci.* 2009;4(2):153–161
- LaPointe LL. Profanity. *J Med Speech Lang Pathol.* 2006;14 (1):vii–ix
- Phillips M, Kassinove H. Effects of profanity, touch, and sex of the counselor on perceptions of the counselor and behavioral compliance: implications for rational-emotive therapists. *J Ration Emot Ther.* 1987;5(1):3–12
- Rassin E, Muris E. Why do women swear? An exploration of reasons for and perceived ef-

- ficacy in Dutch female students. *Pers Individ Dif*. 2005;38(7):1669–1674
17. Achenbach T. *Manual for the Child Behavior Checklist/418 and 1991 Profile*. Burlington, VT: University of Vermont; 1991
 18. Griffiths MD, Shuckford GLJ. Desensitization to television violence: a new model. *New Ideas Psychol*. 1989;70(1):85–89
 19. Kromar M, Sohn S. The role of bleeps and warnings in viewers' perceptions of on-air cursing. *J Broadcast Electron Media*. 2004; 48(4):570–583
 20. Federal Trade Commission. *Marketing Violent Entertainment to Children: A Review of Self-regulation and Industry Practices in the Motion Picture, Music Recording, and Electronic Game Industries*. Washington, DC: Federal Trade Commission; 2000
 21. Anderson CA, Berkowitz L, Donnerstein E, et al. The influence of media violence on youth. *Psychol Sci Public Interest*. 2003;4(3): 81–110
 22. Brown JJ, Halpern CT, L'Engle KL. Mass media as a sexual super peer for early maturing girls. *J Adolesc Health*. 2005;36(5): 420–427
 23. Borzekowski DLG, Strasburger VC. Tobacco, alcohol, and drug exposure. In: Calvert S, Wilson BJ, eds. *Handbook of Children and the Media*. Boston, MA: Blackwell; 2008:432–452
 24. National Center on Addiction and Substance Abuse. *National Survey of American Attitudes on Substance Abuse, Part X: Teens and Parents*. New York, NY: National Center on Addiction and Substance Abuse; 2005
 25. Morales JR, Crick NR. *Self-report of Aggression and Social Behavior Measure*. Minneapolis, MN: University of Minnesota; 1998
 26. Gentile DA, Lynch PJ, Linder JR, Walsh DA. The effect of violent video game habits on adolescent hostility, aggressive behaviors, and school performance. *J Adolesc*. 2004; 27(1):5–22
 27. Coyne SM, Callister M, Stockdale L, Nelson DA, Wells BM. "A helluva read": profanity in adolescent literature. Presented at: the Media & Family Conference; March 3–5, 2010; Provo, UT
 28. Arbuckle JL. *Amos 17.0 User's Guide*. Chicago, IL: SPSS; 2008
 29. Anderson CA, Gentile DD, Buckley KE. *Violent Video Game Effects on Children and Adolescents: Theory, Research, and Public Policy*. New York, NY: Oxford University Press; 2007
 30. Shrout PE, Bolger N. Mediation in experimental and non-experimental studies: new procedures and recommendations. *Psychol Methods*. 2002;7(4):422–445
 31. Bushman BJ, Anderson CA. Media violence and the American public: scientific fact versus media misinformation. *Am Psychol*. 2001;56(6–7):477–489

COFFEE TO PREVENT DEPRESSION: *We have a set routine in our household. Before going to bed, I program the coffee maker so that by 5:30 AM, a huge pot of fully caffeinated coffee has been brewed. Once I get up in the morning, I bring my wife, who is still in bed, a large mug of coffee. In a few minutes or so, I refresh her cup. At about this time she becomes conversant. Given that she probably has about four to six cups of coffee each morning before going to work, I have always wondered if there were any medical problems associated with her caffeine consumption. She is never jittery and despite the trials and tribulations of managing four older teens in the household, never gets down or depressed (while my moniker is Dr. Doom). Now it turns out that coffee may actually have health benefits. As reported in The New York Times (Blogs: September 26, 2011), a study involving more than 51,000 nurses between 1996 and 2006 showed that drinking caffeinated coffee protected against the development of depression. Coffee drinkers were 20 percent less likely to develop depression and that the more coffee drunk each day (up to six cups), the greater the protection. Drinking tea, soda, decaffeinated coffee, or eating chocolate had no protective benefit; probably because these do not contain enough caffeine. Researchers are quick to say that women should not necessarily order double or triple shots at their local coffee shop and that more research is needed to understand the mechanism of protection. Still, this study confirms earlier research showing that Finnish men who drank large amounts of coffee had a lower risk of depression than those who did not consume coffee. As for us, we will continue to brew a huge pot each morning. Maybe I will try to drink a bit more and get rid of my moniker.*

Noted by WVR, MD

Profanity in Media Associated With Attitudes and Behavior Regarding Profanity Use and Aggression

Sarah M. Coyne, Laura A. Stockdale, David A. Nelson and Ashley Fraser
Pediatrics 2011;128;867

DOI: 10.1542/peds.2011-1062 originally published online October 17, 2011;

Updated Information & Services	including high resolution figures, can be found at: http://pediatrics.aappublications.org/content/128/5/867
References	This article cites 18 articles, 0 of which you can access for free at: http://pediatrics.aappublications.org/content/128/5/867.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Developmental/Behavioral Pediatrics http://classic.pediatrics.aappublications.org/cgi/collection/development:behavioral_issues_sub Adolescent Health/Medicine http://classic.pediatrics.aappublications.org/cgi/collection/adolescent_health:medicine_sub Media http://classic.pediatrics.aappublications.org/cgi/collection/media_sub
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: https://shop.aap.org/licensing-permissions/
Reprints	Information about ordering reprints can be found online: http://classic.pediatrics.aappublications.org/content/reprints

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2011 by the American Academy of Pediatrics. All rights reserved. Print ISSN:

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Profanity in Media Associated With Attitudes and Behavior Regarding Profanity Use and Aggression

Sarah M. Coyne, Laura A. Stockdale, David A. Nelson and Ashley Fraser
Pediatrics 2011;128;867

DOI: 10.1542/peds.2011-1062 originally published online October 17, 2011;

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/128/5/867>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2011 by the American Academy of Pediatrics. All rights reserved. Print ISSN:

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

