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Out smoking on the big screen: Tobacco use in LGBT movies, 2000–2011

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Abstract

Objective—Lesbian, gay, bisexual, and transgender (LGBT) people have significantly higher smoking prevalence than heterosexual people in the United States. The reasons for this disparity remain unclear. Tobacco use in movies has a substantial influence on tobacco use behaviours, particularly among youth. Yet, no research has examined tobacco use in movies for LGBT audiences or containing LGBT characters.

Methods—We identified 81 U.S. movies from 2000–2011 with a theatre release and with LGBT themes or characters. We then selected a random sample of these movies ($n = 45$) for quantitative content analysis to examine the proportion of movies with depictions of tobacco use and the number of occurrences of tobacco use.

Results—Tobacco use was depicted in 87% (95% confidence interval [CI]: 80%–94%) of movies with an average of 4 occurrences of tobacco use per hour (95% CI: 3–5). Only 15% (95% CI: 8%–23%) of movies and 3% of all depictions of tobacco use conveyed any harms of tobacco use.

Conclusions—Viewers of movies with LGBT themes or characters are exposed, on average, to one depiction of tobacco use for every 15 minutes of movie run-time. As a major component of the entertainment media environment, movies may contribute to smoking among LGBT people.

Keywords

tobacco use dependence; smoking; motion pictures as topic; homosexuality; communications media

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INTERESTS

The authors have no competing interests to report.

INTRODUCTION

The elevated prevalence of cigarette smoking among lesbian, gay, bisexual, and transgender (LGBT) people compared to heterosexual people constitutes a major health disparity in the United States.[1, 2] The reasons for this disparity are often theorized as stemming from stigma and related stress, but evidence is limited.[3] As smoking begins primarily during youth and adolescence,[4] further investigation of the causes of this disparity should consider youth.

Tobacco and Movies

The tobacco industry historically and covertly purchased ubiquitous and glamorous depictions of tobacco use in movies.[5, 6] The impact of these depictions on youth and young adult tobacco use has received considerable attention,[e.g., 7, 8, 9] with estimates suggesting that up to 44% of the overall attributable risk of youth smoking comes from smoking in movies.[10] Exposure to tobacco use in movies is causally related to youth smoking initiation,[4, 11] and there may be some impact on adults.[12] While estimates of movies' influence on youth smoking have been criticized as too large,[13] movies clearly have a meaningful and substantial impact on youth and, to a lesser extent, young adult smoking.[4, 11]

LGBT Populations and Movies

LGBT characters in movies long communicated stories of invisibility, unrequited love, and – too often – suicide.[14] When recognizable, however, they provided meaningful evidence of the existence of LGBT people.[15] LGBT youth seek information about the LGBT community through movie and television portrayals of LGBT characters.[16, 17] These representations of LGBT people influence LGBT identity development.[18, 19] Certainly, more recent movies such as *The Kids Are All Right*(2010) and *Transamerica*(2005) provide more rounded and somewhat more diverse LGBT characters. Inasmuch as these characters improve visibility, provide representations of a future, and illustrate positive role models, these representation of LGBT characters in movies have been long in coming[out].[14] Media portrayals of LGBT people, however, come with other messages, such as tobacco use by LGBT characters, that may impact health.

Thus, we aimed to (1) define a population of movies with LGBT themes and/or characters, (2) assess the proportion of such movies with tobacco use occurrences in a representative sample thereof, and (3) to quantify the frequency of occurrences of tobacco use.

METHODS

Sampling Frame

We sought to create a sampling frame of movies that either contained a gay character or had a theme about LGBT life, thus identifying movies likely to be salient to LGBT viewers. As we could not identify a published filmography of this genre, we used two sources that bring commercial algorithms and community perceptions to bear: We searched Netflix for all movies in the Gay & Lesbian genre on March 16, 2012,[20] and used the Wikipedia entry

for LGBT-related movies on March 23, 2012.[21] We used the following inclusion criteria: (1) U.S. movies, excluding documentaries, (2) from 2000 or after (3) that were released in theatres and (4) had an R-rating or below. We used the Internet Movie Database (IMDb, <http://www.imdb.com>) for inclusion coding. This produced a list of 58 movies from Netflix and 57 from Wikipedia. There were no G- or PG-rated movies. After de-duplicating titles, the sampling frame consisted of 81 movies (see Appendix: online only).

Sampling

We used PROC SURVEYSELECT in SAS 9.2 to create a random sample proportionally stratified by rating, as ratings are associated with the prevalence of cigarette use.[22] We chose the sample size of 45 to obtain estimates of the proportion of movies with tobacco occurrences that would have confidence intervals with a width of +/- 10%.

Measures

Tobacco Occurrence—We followed a procedure similar to Dalton *et al.*[23] in their descriptive analysis of tobacco use in movies where the unit of coding is the scene. While this measure undercounts the total number of times tobacco products are presented on screen, it provides the count and characteristics of the most salient depictions.[23] We also coded for the presence of any indication of the harmfulness of tobacco use (e.g., a cough or discussion of health effects).

After watching the entire movie, coders identified each occurrence as being with a lead, supporting, or extra character as well as identifying demographics (gender, age, race, sexual orientation/gender identity). We coded lead and supporting characters as heterosexual, unknown, or sexual/gender minority if the accumulated evidence by the end of the movie suggested same-sex attraction, same-sex sexual behaviour, or LGBT identity.

Analysis

Prevalence Estimates—To obtain estimates of the proportion of movies with tobacco occurrences and the amount of tobacco occurrences, taking into account our stratified sample, we used SAS 9.3 SURVEYMEANS and SURVEYFREQ to calculate prevalence and specified the total population of each stratum to utilize finite population correction. Finite population correction increases precision of the estimate by taking into account the proportion of the sampling frame included in the sample.[24]

Quantitative Content Analysis Coding and Reliability—Each movie was viewed using Netflix streaming video, if available, or a DVD, if not. This allowed movies to be paused and "rewound." One author (JGLL) coded 78% of all movies with the remaining coding split between the other authors. We used an SPSS 20 macro (version 3.1, June 8, 2012)[25] to calculate Krippendorff's α for reliability. We calculated inter-rater reliability at the movie level by double coding ten movies (22% of the sample) known to have tobacco occurrences. Second coders were blinded to the selection of the movies for reliability. Reliability for the total number of occurrences per movie was $\alpha=0.90$ (95% confidence interval [CI]: 0.80–0.98) for tobacco, $\alpha=1.00$ for occurrences showing harms from tobacco, $\alpha=0.82$ (95% CI: 0.49–1.00) for leading character occurrences, $\alpha=0.99$ (95% CI: 0.98–1.00)

for sexual/gender minority occurrences (coded only for leading and supporting characters), $\alpha=0.93$ (95% CI: 0.87–0.98) for male gender occurrences, and $\alpha=0.93$ (95% CI: 0.85–0.99) for cigarette products. Calculating reliability of occurrence characteristics was impractical at the individual occurrence level since our coding protocol did not specify when over the course of a scene to code attributes of the occurrence, and our main research interest was at the movie level. For example, a scene might involve two characters talking while moving from a car into the house. This made it impossible to objectively match occurrences by time to calculate reliability for occurrence attributes. As one author coded 78% of movies, we were unable to directly assess reliability by individual coder. Nonetheless, we examined discrepancies in coding and found them to be almost universally due to fleeting depictions of background extras smoking or large scenes (e.g., a nightclub) with many people smoking.

RESULTS

Tobacco use was present in 39 of the 45 movies, and cigarettes were the most commonly used tobacco products (Table 1). Half of movies, 49%, showed LGBT leading or supporting characters using tobacco products (95% CI: 39–59%) while just three of every twenty movies, 15%, showed a negative consequence of tobacco use (95% CI: 8–23%).

There were 363 tobacco occurrences. Briefly, 92% of tobacco occurrences involved cigarettes. Just 3% of occurrences included depictions or messages regarding the harms of tobacco use. Half (51%) of the tobacco users were female. Among occurrences, 77% happened with white characters, 12% with Latino characters (driven largely by the movie *Before Night Falls* [2000]), and 3% with African-American characters. We did not enumerate all characters and thus cannot calculate prevalence among characters. Among occurrences by lead and supporting characters, 52% were LGBT and 44% were heterosexual. We were unable to ascertain sexual orientation for 5% of characters with tobacco use occurrences.

DISCUSSION

Principal Findings

Tobacco use was present in most LGBT movies from 2000 to 2011 that were released in U.S. theatres, and depictions of the consequences of tobacco use were largely absent. Assuming that LGBT youth seek out LGBT movies, depictions of tobacco use in them could influence their expectations of and decisions on tobacco use.

Strengths and weaknesses of this study

There are a number of important limitations to this study. It is not clear whether tobacco use in LGBT movies is higher or lower than in the general population of U.S. major releases, and this study was not designed to make such a comparison. It is possible that different strategies for defining LGBT movies would provide a different sampling frame and prevalence estimate. Alternative sampling sources should be sought to identify LGBT movies. Importantly, presence of tobacco use in movies may not be related to exposure, especially among youth; further research should assess actual exposure and its relation to behavior in this understudied population. In summary, our research provides inaugural

evidence regarding the high prevalence of depictions of tobacco use in movies with LGBT themes and/or characters using a replicable sampling strategy.

Unanswered questions and future research

Studies designed for causal inference are needed to examine if the prevalence of tobacco use in LGBT movies contributes to LGBT tobacco use disparities. This study suggests the importance of future work testing theory-based measures of entertainment media exposure within the LGBT population. Transportation theory, for example, suggests the importance of how well one "connects with" a given movie's narrative.[26] Researchers have used transportation theory to explain how race may moderate the impact of depictions of tobacco use on smoking initiation:[27] tobacco use in black-oriented media appears to have a substantial effect on African-American adolescents that is not present with exposure to tobacco use in mainstream media.[28] LGBT audience members may be more apt to identify with LGBT characters or LGBT plot driven movies,[15, 18] and future research should empirically test this.

Conclusion

While some work has begun investigating specifics of how the social environment may influence LGBT tobacco use,[29] tobacco in the media environment has only been examined in a few studies that found tobacco images normative in the LGBT press.[30, 31] The media environment long made LGBT lives invisible, although there are increasingly visible LGBT narratives and characters. Burgeoning visibility of LGBT characters in movies allows for other messages about what it means to be LGBT. For now, unfortunately, those messages include tobacco use as a ubiquitous part of LGBT lives.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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WHAT THIS PAPER ADDS

- Tobacco use is ubiquitous in movies with LGBT characters and/or themes.
- The harms of tobacco use are largely invisible.
- The entertainment media environment may be a potential contributor to LGBT tobacco use disparities.

Table 1Population estimates of tobacco occurrences in U.S. LGBT movies with theatre release, 2000–2011, $n = 45$

| | PG-13 ($n = 12$) Estimate (95% CI) | R ($n = 33$) Estimate (95% CI) | Total Estimate (95% CI) |
|---|--|--|--|
| Movies with depictions of tobacco use, % | 75 (56–94) | 91 (84–98) | 87 (80–94) |
| Tobacco occurrences per hour, Mean No. | 4 (2–6) | 4 (3–6) | 4 (3–5) |
| Tobacco occurrences per hour, Median No. | 2 (0–4) | 2 (1–3) | 2 (1–3) |
| Movies with depictions of cigarette use, % | 67 (46–87) | 88 (80–96) | 82 (75–90) |
| Movies with depictions of cigar use, % | 8 (0–20) | 6 (0–12) | 7 (2–12) |
| Movies with depictions of negative consequences of tobacco use, % | 25 (6–44) | 12 (4–20) | 15 (8–23) |
| Movies that show LGB leading or supporting character use tobacco, % | 25 (6–44) | 58 (46–70) | 49 (39–59) |

CI=confidence interval, calculated using a finite population correction