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One Less Reason Why: Viewing of Suicide-Themed Fictional Media is Associated with Lower Depressive Symptoms in Youth

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ABSTRACT

Concerns about whether fictional media can have a contagion effect on youth viewers have been debated for several decades. In the 1980s these led to several lawsuits featuring heavy metal acts as defendants. More recently, concerns have been renewed following the popular television show *13 Reasons Why* which depicts an adolescent girl's suicide. The current study examines these concerns in a survey study of 174 youth and their caregivers. Results indicated that, contrary to concerns, viewing suicide themed fictional shows was associated with reduced depressive symptomology and was not associated with suicidal ideation specifically. Depression and suicidal ideation were most associated with experiencing with others' suicides in real life, family environment, bullying and neurotic personality traits. The show *13 Reasons Why* specifically was associated with either lower depression or suicidal ideation or null effects, depending on specific outcome. Although correlational, this evidence suggests that suicide prevention efforts should focus less on fictional media and more on prevention of bullying.

Concerns that suicide behaviors might be contagious, particularly as a result of consuming fictional media, have existed for several centuries. Proponents of such concerns may refer to the *Werther Effect* which is named after the 18th Century novel *The Sorrows of Youth Werther*. Some thought the novel precipitated copycat suicides modeled after the death of the novel's protagonist. However, such concerns were typically founded on ill-documented anecdote and some scholars refer to the Werther Effect as one of the first media moral panics, or manufactured crises (Furedi, 2015). In the 1980s, concerns about suicide contagion resurfaced culminating in lawsuits against

Ozzy Osbourne and Judas Priest for allegedly contributing to the suicide deaths of several young men. The lawsuits were unsuccessful in all cases. Most recently, the Netflix television show *13 Reasons Why* once again renewed fears of suicide contagion by fictional media, as the show explicitly documents that suicide of the lead female character. This led to groups such as the National Association of School Psychologists (2017) to express concerns about the show's potential effects. Nonetheless, documentation of suicide contagion by fictional media remains limited. This article sought to address this issue by examining links in a sample of American youth.

Background evidence on fictional media suicide contagion

Research studies on suicide contagion date back at least to the 1980s. They tend to take two forms. First, studies that track suicide rates in a geographic area before and after the release of a television show or movie with suicide themes (henceforth, aggregate studies) and, second, more traditional social science studies using survey or other methods with discrete samples. Neither set of studies have provided a consistent set of results, and both tend to experience significant methodological limitations (Ferguson, 2019).

Many studies come from the perspective of social cognitive theory (SCT; Bandura, 2001). SCT suggests that communications, including fictional media, can influence attitudes and behavior both directly, through learning, and indirectly through social networks. From SCT, we would expect fictional media suicides to increase the risk that youth may perceive suicide to be a reasonable response to difficult life circumstances. However, prior support for SCT in this realm has been mixed (Ferguson, 2019). Further, SCT has been challenged as an adequate paradigm in other realms of media effects such as media violence (e.g., Read et al., 2016; Sauer et al., 2015). As such, it is not specifically endorsed as a theoretical model here.

Aggregate studies are often limited by low power and an inability to determine whether those who commit suicide actually had viewed the show of interest to the researchers (Simkin et al., 1995). The appropriate statistical means of analyzing such data were also not always clear, resulting in scholars often reanalyzing the same datasets with differing results (e.g., Gould & Shaffer, 1986; Phillips & Paight, 1987). In a more general sense, particularly in an era in which publication bias was prevalent, the potential for ecological fallacies (false correlations between variables that have no actual causal connection with each other) remain quite high.

Survey or experimental studies have some advantages, particularly in that they can at least actually assess exposure to the television shows, movies, music, etc., of interest. But these too can experience significant methodological weaknesses. These may include the use of unstandardized outcome measures (Elson et al., 2014), single-responder bias (Baumrind

et al., 2002), demand characteristics, and the overinterpretation of trivial "noise" correlations (Orben & Przybylski, 2019a). However, rigorously designed social science experiments that reduce these pitfalls could be instrumental (Whyte et al., 2016). At present, however, preexisting survey and experimental studies have not provided clarity about whether notable relations exist between fictional suicide-themed media and negative outcomes in consumers (Till et al., 2016, 2014)

The attention to heavy metal music in some studies is interesting, presumably prompted by the darker lyrics in much of the genre as well as the lawsuits involving Ozzy Osbourne and Judas Priest. One issue that has evolved in recent research is the observation that use of heavy metal music may produce differential results among fans than non-fans, a potential warning for much of media effects research (Sun et al., 2019). For instance, one recent study found that listening to heavy metal music was associated with positive emotional outcomes for fans (Thompson et al., in press). Likewise, other research has found that listening to heavy metal music can have profound positive impacts on the emotional experiencing of fans, while not producing similar impacts among non-fans (Kneer & Reiger, 2016). Given that most social psychological studies use convenience samples of college students who are not necessarily fans of a particular media genre, their experiencing of that media may not generalize effectively to people who actually consume that media.

One recent meta-analysis (Ferguson, 2019) examined both sets of studies. Methodological limitations were almost universal across most of the studies. However, in the meta-analysis, results revealed that current data could not link suicide themed fictional media to either actual suicides in the aggregate or to reduced mood or suicidal ideation in traditional social science studies. This was true both for film/television as well as heavy metal music.

13 Reasons Why

The show 13 Reasons Why was a popular show (possibly, in part, driven by the show's controversy) released on Netflix in late March of 2017. The show portrays an adolescent girl who experiences multiple hardships in school including bullying and sexual assault and feels unsupported by her friends and families. She creates a series of tapes documenting the reasons for her suicide, exposing the poor behavior of students and adults alike who contributed to her distress or failed to help her. Positively regarded critically, the show was controversial for its graphic suicide scene and concerns it romanticized suicide.

As noted above, much of the resurgence in the interest in fictional media suicide contagion can be attributed to the show 13 Reasons Why which

features the graphic suicide of a teenage girl. Prior to this, much of the literature had focused on news media contagion, with somewhat mixed results (Hittner, 2005). As a consequence, several research reports have attempted to address the issue of the *13 Reasons Why* show specifically and whether the show may have prompted suicide contagion. At present, results have been mixed.

A few studies anecdotally looked at self-harm referrals at hospitals following the release of the show, although these were mainly small, based on self-reported referencing to the show, and didn't account for seasonal or yearly variations in suicide rates. The largest of these was by Bridge et al. (in press) which conducted a time-series analysis based on Centers for Disease Control suicide data. Although the study authors claimed to link the release of the show *13 Reasons Why* to increased teen suicides, a close look of the data suggests mixed results at best. Suicide increases were only seen for several of the months considered in the study, and only for boys, not girls (the opposite of what might be expected for a show featuring a female protagonist and popular with girls.) Suicides among girls actually declined during one of the study months. Suicides among boys had already been increasing *before* the show was released. The study authors attributed this to promotion for the show, but this is speculative at best. More likely, the inconsistent results are better explained by both seasonal and yearly increases in suicide rates that may have been difficult to control for, as well as several real-world suicides of male celebrities about the same time. Thus, making firm conclusions from this data is difficult.

Several survey-based psychological studies also have examined exposure to *13 Reasons Why*, each coming to more positive conclusions than the aggregate study. For instance. Wartella et al. (2018) surveyed over 5000 youth internationally and found that viewing the program was positively associated with discussions with parents around mental health and suicide. However, it is worth noting that this study was funded by Netflix. Although that doesn't invalidate this study's findings, it may not be unreasonable to consider them hesitantly. Results from this study were conceptually replicated more recently by an independent group (Arendt et al., in press). Their results reported declines in suicidal ideation and self-harm for participants who watched the entire season compared to those who had not. Individuals who watched only a few episodes had more negative outcomes.

Control variables

There is a wide body of research on suicide prevention, most of which is beyond the scope of the current paper. For an excellent recent review see Asarnow and Mehlum (2019). From extant research we would expect suicide risk to result from multiple developmental factors related to families, peers and mental health issues. Exposure to fictional media suicide could be hypothesized

as one contributing factor. Cross-culturally, peer relations are a strong predictor of suicide, including issues related to reduced social support, loneliness and bullying (Cui et al., 2011; Field et al., 2001).

It is generally regarded that examining the impact of media on outcomes requires careful control of theoretical variables that might explain non-causal correlations between media viewing and outcomes (Pratt et al., 2010; Savage & Yancey, 2008). In the case of *13 Reasons Why*, it would be reasonable to expect that girls might both watch the show more often and also experience higher depression and suicidal ideation (although completed suicides are more prevalent among males.) Thus, controlling for gender is important. Developmentally, we might expect different responses to the show from younger teens than older. Thus, age is important to control.

Other factors are known to predict depressed mood and suicidal ideation and are reasonable to control. These include neurotic personality traits (Mandelli et al., 2015), exposure to suicides among peers or family (Randall et al., 2015), parental support and involvement (Wang et al., 2018), as well as parental aggression (Mok et al., 2016), and bullying victimization (Quintana-Orts et al., 2019). In many cases, youth may cope with their problems by turning to edgier media material they can relate to (Rieger et al., 2015), potentially creating correlations that have no causal value. Thus, controlling for these other variables has conceptual utility.

The current study

The current study seeks to advance knowledge in this area by examining relationships between fictional media suicide viewing (including, but not limited to *13 Reasons Why*) with depressed mood and suicidal ideation in youth. This study will improve upon previous methods by using a dual reporter (parent and youth) methodology, including multiple control variables, through the use of standardized, clinically-validated outcome measures, and by preregistering the study in advance (the preregistration is available at: https://osf.io/m5nbe.) This study will test the following hypotheses:

H1: Viewing suicide themed fictional media will be associated with increased youth reported depression and suicidal ideation.

H2: Viewing suicide themed fictional media will be associated with increased parent reported depression for their youth and parent rated suicidal ideation for their youth.

Two exploratory hypotheses (that were not specified in the preregistration) will also be considered.

H3: Viewing *13 Reasons Why* will be associated with increased youth reported depression and suicidal ideation. This hypothesis would be consistent with SCT, suggesting that exposure to *13 Reasons Why* could activate learning-based social scripts related to suicidal ideation.

H4: Viewing *13 Reasons Why* will be associated with increased parent reported depression for their youth and suicidal ideation for their youth.

Methods

Participants

Participants in the study were 174 youths aged 11–18 along with their primary caregivers. Mean age was 15.75 (*SD* = 1.82). A majority (112, 64.4%) of participants were female. Regarding ethnicity, Caucasian Americans were the largest group (69.0%) followed by Hispanic/Latinos (18.4%) and African Americans (6.3%) with smaller groups who identified as Asian American, biracial or other.

Measures

Depression and suicidal ideation

Depression and suicidal ideation were assessed using the Child Behavior Checklist, parent and youth self-report versions (Achenbach & Rescorla, 2001). A 13-item scale of depressive and withdrawal items was used, including a single item for suicidal ideation. Question responses involved a 3-option ordinal response rating severity of symptoms. Coefficient alpha for the present sample was .877 for youth self-report and .830 for parent report.

Exposure to suicide-themed fictional media

Exposure to suicide-themed fictional media was assessed using a list of 28 movies and television shows, which the youth responded if they had seen the show/film or not. Eleven of the included shows involved suicide themes, either as the entire premise or in repeated episodes (these shows were: *13 Reasons Why, The Virgin Suicides, What Dreams May Come, The 100, Last Days, Wish Upon, The Road, The Others, American Horror Story, Full Metal Jacket, The Walking Dead*.) The remaining 17 shows were fillers and did not include suicide themes. The shows were intermixed, so as to make it more difficult for respondents to guess the hypothesis of the study. Coefficient alpha for the 11 suicide-themed shows/films was .668.

Family involvement

Family involvement was assessed using a 7-item Likert scale from the Negative Life Events questionnaire (Paternoster & Mazerolle, 1994). The scale includes items related to how much time family spend together and the youth's perception of family having a positive and supportive influence over them. Coefficient alpha for the present sample was .846. This scale was included given previous research that positive family involvement can be a protective factor for youth suicide (Wang et al., 2018).

Bullying victimization

The Revised Olweus Bully/Victim Questionnaire (Olweus, 1996) was used to assess bullying exposure. The bullying victimization scale consisted of 7 items in which participants were asked to rate how often they had been exposed to bullying behaviors over the past couple of months. Items inquire about physical aggression, verbal aggression, threats and social exclusion. A coefficient alpha of .779 was obtained for the current sample.

Perceptions of parental affection

Youth perception that their parents loved them was measured using a 5-item Likert scale developed from the Family Conflict Scale (Ferguson et al., 2008). Each item assesses different components of whether the youth felt their parents expressed love or kindness toward them. Coefficient alpha for the present sample was .748.

Neuroticism

Neuroticism, or a personality tendency toward worry and self-doubt, was assessed using a 10-item scale developed from the International Personality Item Pool (Goldberg et al., 2006). Coefficient alpha for the present sample was .726.

Real-life suicide exposure

For the present study a 6-item yes/no scale was developed to assess for exposure to completed suicides and suicidal ideation among family, friends and acquaintances. An example item is "A friend of mine has tried to kill themselves." Coefficient alpha for the present sample was .655.

Parental aggression

Trait aggression among parents was assessed using a short form version of the Buss and Warren (2000) trait aggression survey. Coefficient alpha for the present sample was .891.

Procedure

The study methodology passed IRB scrutiny at the affiliated university. Before engaging with the study, participants (both parents and youth) were provided with an informed consent form and were required to indicate their consent before moving forward with the survey.

All procedures were preregistered, and the preregistration document is provided above. Surveys were entered into Qualtrics and distributed primarily online through snowball sampling. Such approaches have been used in past studies and resulted in psychometrically validated results (Khetani et al., 2015). Students at a liberal arts university in the US South recruited family members who met the age criteria of 11–18 years. Recruitment through social media was also employed. As noted in the preregistration document, although a larger sample was desired, the stopping rule was employed due to the small size of the local community after 2 years of data collection (October 2017-May 2019). Data collection was not ceased due to any study results and the decision to stop data collection was made without any data analysis having taken place.

Participant responses were screened for meeting the age requirement (10 individuals with ages over 18 were eliminated in this way.) Also, youth respondents were required to answer two reliability check items. One of these was for inattention (requiring simply that a certain response be marked) the other for mischievous responding ("Great white sharks make excellent family pets"). Fourteen individuals failed one of these reliability check items. The final sample of 174 youth and families represents the data sample after above-age or unreliable responses had been eliminated. All age and unreliable responses were eliminated before data analysis.

All procedures passed local IRB review and were designed to comport with federal and international standards for human participant research. Upon completion of the study, participants were provided with information regarding mental health services and support regarding suicidal ideation. Contact information for the lead investigator was provided as well as the National Suicide Prevention Hotline. This article details methods for sample size determination, all data exclusions (if any), all manipulations, and all measures in the study.

Results

Unless indicated otherwise below, all study tests employed OLS regression with pairwise deletion. No evidence for multicollinearity was found for any regression, with VIFs typically below 1.6. It is now well-recognized that reliance on p-values can cause both false positive and false negative results (Orben & Przybylski, 2019a). Therefore, current analyses will rely more

heavily on examination of effect sizes, as well as Bayes factors. Effect sizes above $r = .10$ will be considered to be outside the range most likely to produce false positive or trivial results, whereas those above $r = .20$ will be considered to be of particular clinical significance. Descriptives of study variables are included in Table 1. A correlation matrix between all study variables is presented as Table 2.

Main study hypotheses

H1 (Youth reported depression and suicidal ideation)

Table 3 presents full data on the results for youth self-reported depression. Table 4 presents full data for youth self-reported suicidal ideation. For youth reported depression, the largest predictor is neurotic personality traits. Contrary to the study hypotheses, exposure to fictional suicide-themed media was associated with *lower* depression and to a clinically significant degree. Other predictors of depression included exposure to bullying and exposure to real-life suicides in the expected direction. Surprisingly, parental and family factors were not predictors of depression. The overall model ($R = .716$, $R^2_{adj} = .484$, F [9. 152] = 17.78, $p < .001$) was significant. Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable indicated better outcome for the model including the variable (BF = 5.19^{18}) than without (BF = 9.17^{16}) confirming the utility of this variable. For suicidal ideation, the model was significant ($R = .497$, $R^2_{adj} = .203$, F [9. 152] = 5.55, $p < .001$). Only neuroticism and exposure to bullying were significant predictors of suicidal ideation. Exposure to fictional suicide themed media was associated with a non-trivial reduction in suicidal ideation, although statistical significance was not reached ($p = .098$.) Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable indicated worse outcome for the model including the variable (BF = 372.34) than without (BF = 428.35). Because the suicidal ideation outcome variable is ordinal in nature, method invariance was tested by rerunning the regression as ordinal logistic. Similar

Table 1. Descriptive statistics for main study variables.

Variable	Range	Mean	Standard Deviation
Fictional Media Suicide	1.09–2.00	1.76	.18
Family Involvement	1.00–4.43	2.30	.79
Bullying Victimization	2.71–5.00	4.51	.53
Perceptions of Parental Affection	1.00–2.00	1.10	.21
Neuroticism	1.20–5.00	3.32	.67
Youth Reported Depression	1.00–3.00	2.48	.47
Parent Reported Depression	1.31–3.00	2.63	.38
Real-Life Suicide Exposure	1.00–2.00	1.77	.24
Parental Aggressiveness	2.47–5.00	4.42	.60

All scores are scale means across individual items.

Table 2. Correlations between main study variables.

	Gender	Age	Fiction	PosFamily	Bullied	Love	Neuro	Childdep	Parentdep	SE	ParAgg
Male Gender	1.00	.223	.009	.020	-.001	.044	-.236	-.148	-.115	-.182	.043
Age	1.00	.003	-.051	-.164	.133	.119	.091	.097	.231	.051	
Fiction	1.00	-.027	.131	-.406	.101	-.106	-.101	.029	-.012		
PosFamily	1.00	-.228	.159	-.351	-.259	-.239	-.120	-.295			
Bullied	1.00	-.280	.416	.461	.308	.205	.296				
Love	1.00	-.267	-.175	-.119	-.116	-.145					
Neuro	1.00	.617	.460	.342	.139						
Youthdep	1.00	.744	.416	.225							
Parentdep	1.00	.403	.210								
SE	1.00	.209									
ParentAgg	1.00										

PosFamily = Family Involvement; Love = Perceptions of Parental Love; Neuro = Neuroticism; Youthdep = Youth Reported Depression; Parentdep = Parent Reported Depression; SE = Suicide Exposure in Real Life; ParAgg = Parental Trait Aggression.

Table 3. Regression model for youth rated depression outcome.

Variable	β	t	p-value
Male Gender	.005	0.08	.939
Age	−.039	−0.62	.534
Fictional Suicide Media	−.209	−3.34	.001
Family Involvement	−.009	−0.15	.884
Bullying Victimization	.244	3.59	<.001
Perceptions of Parental Love	−.048	−0.73	.467
Neuroticism	.445	6.27	<.001
Real-life Suicide Exposure	.198	3.14	.002
Parental Aggressiveness	.035	0.56	.577

Table 4. Regression model for youth rated suicidal ideation outcome.

Variable	β	t	p-value
Male Gender	.090	1.28	.229
Age	−.019	−0.24	.811
Fictional Suicide Media	−.113	−1.67	.098
Family Involvement	−.073	−0.93	.352
Bullying Victimization	.241	2.86	.005
Perceptions of Parental Love	−.088	−1.06	.289
Neuroticism	.241	2.73	.007
Real-life Suicide Exposure	.119	1.52	.131
Parental Aggressiveness	−.033	−0.43	.671

results were found with only bullying victimization and neuroticism as predictors of self-reported suicidal ideation. Thus, fictional suicide themed media was not a predictor of self-reported suicidal ideation. To save space, some tables were moved to an online repository. Since results were generally similar between depression and suicidal ideation outcomes, all suicidal ideation outcome tables were moved to the following repository: https://osf.io/32fm7/

H2 (Parent reported depression and suicidal ideation)

Table 5 presents full data on the results for parent-reported depression for their youth. Table 6 presents full data for youth self-reported suicidal ideation. For parent rated depression for their youth, the model was

Table 5. Regression model for parent rated depression outcome.

Variable	β	t	p-value
Male Gender	.011	0.15	.881
Age	−.022	−0.30	.767
Fictional Suicide Media	−.168	−2.28	.024
Family Involvement	−.057	−0.77	.445
Bullying Victimization	.116	1.46	.147
Perceptions of Parental Love	−.030	−0.38	.705
Neuroticism	.306	3.66	<.001
Real-life Suicide Exposure	.255	3.44	.001
Parental Aggressiveness	.055	0.74	.459

Table 6. Regression model for parent rated suicidal ideation outcome.

Variable	β	t	p-value
Male Gender	.007	0.08	.933
Age	.083	0.99	.324
Fictional Suicide Media	−.091	−1.08	.280
Family Involvement	−.121	−1.43	.155
Bullying Victimization	.113	1.23	.220
Perceptions of Parental Love	−.000	−0.00	.997
Neuroticism	.073	0.76	.449
Real-life Suicide Exposure	.191	2.25	.026
Parental Aggressiveness	−.010	−0.12	.905

significant ($R = .571$, $R^2_{adj} = .286$, F [9. 152] = 8.15, $p < .001$). For youth reported depression, the largest predictor is neurotic personality traits, as with youth self-report. Contrary to the study hypotheses, exposure to fictional suicide-themed media was associated with *lower* depression although the effect size was smaller than for youth-reported depression. Other predictors of depression included exposure to real-life suicides in the expected direction, although exposure to bullying was not a predictor as it was for youth-rated depression. Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable indicated better outcome for the model including the variable (BF = 73,367,810) than without (BF = 20,253,954) confirming the utility of this variable. For parent rated suicidal ideation for their youth, the model was significant ($R = .336$, $R^2_{adj} = .060$, F [9. 152] = 2.14, $p = .029$). Only exposure to suicides in real life was a significant predictor of suicidal ideation. Exposure to fictional suicide themed media was associated with a trivial reduction in suicidal ideation only. Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable nonetheless indicated better outcome for the model including the variable (BF = 4.99) than without (BF = 3.51). However, the trivial nature of the effect size argues against interpreting this effect as meaningful. Because the suicidal ideation outcome variable is ordinal in nature, method invariance was tested by rerunning the regression as ordinal logistic. Similar results were found with only exposure to real-life suicides as a predictor of parent-reported suicidal ideation. Thus, fictional suicide themed media was not a predictor of parent-reported suicidal ideation.

Exploratory hypotheses involving 13 reasons why only

H3 (Youth reported depression and suicidal ideation)
Table 7 presents full data on the results for youth self-reported depression. Table 8 presents full data for youth self-reported suicidal ideation. For child rated depression, the overall model ($R = .716$, $R^2_{adj} = .483$, F [9. 152] = 17.74, $p < .001$) was significant. As with the regression for the full

Table 7. Regression model for youth rated depression outcome (*13 Reasons Why* only).

Variable	β	t	p-value
Male Gender	−.059	0.94	.348
Age	−.011	−0.18	.858
13 Reasons Why	−.198	−3.31	.001
Family Involvement	−.025	−0.40	.692
Bullying Victimization	.217	3.19	.002
Perceptions of Parental Love	.030	0.49	.622
Neuroticism	.462	6.50	<.001
Real-life Suicide Exposure	.212	3.36	.001
Parental Aggressiveness	.046	0.73	.464

Table 8. Regression model for youth rated suicidal ideation outcome (*13 Reasons Why* only).

Variable	β	t	p-value
Male Gender	.039	0.51	.615
Age	.000	0.01	.996
13 Reasons Why	−.168	−2.28	.024
Family Involvement	−.085	−1.10	.275
Bullying Victimization	.222	2.65	.009
Perceptions of Parental Love	−.041	0.55	.584
Neuroticism	.255	2.91	.004
Real-life Suicide Exposure	.130	1.67	.097
Parental Aggressiveness	−.028	−0.36	.716

fictional suicide themed media variable, exposure to *13 Reasons Why* specifically was associated with *lower* depression and to a clinically significant degree. The influence of other variables was essentially unchanged. For suicidal ideation, exposure to *13 Reasons Why* was significantly associated with a non-trivial reduction in suicidal ideation. The overall model was statistically significant ($R = .509$, $R^2_{adj} = .215$, $F [9. 152] = 5.90$, $p < .001$.) Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable nonetheless indicated better outcome for the model including the variable (BF = 73,368) than without (BF = 17,785). Because the suicidal ideation outcome variable is ordinal in nature, method invariance was tested by rerunning the regression as ordinal logistic. Results were generally similar, albeit the *13 Reasons Why* Variable was just below the threshold for statistical significance ($p = .058$).

H4 (Parent reported depression and suicidal ideation)

Table 9 presents full data on the results for parent-reported depression for their youth. Table 10 presents full data for youth self-reported suicidal ideation. For parent reported depression, exposure to fictional suicide-themed media was associated with *lower* depression although the effect size was smaller than for youth-reported depression and statistical significance was just over the line ($p = .059$). The overall model was statistically

Table 9. Regression model for parent rated depression outcome (*13 Reasons Why* only).

Variable	β	t	p-value
Male Gender	−.034	−0.46	.649
Age	−.000	−0.01	.995
13 Reasons Why	−.135	−1.91	.059
Family Involvement	−.069	−0.92	.361
Bullying Victimization	.096	1.20	.232
Perceptions of Parental Love	.035	0.48	.631
Neuroticism	.318	3.79	<.001
Real-life Suicide Exposure	.265	3.55	.001
Parental Aggressiveness	.064	0.87	.385

Table 10. Regression model for parent rated suicidal ideation outcome (*13 Reasons Why* only).

Variable	β	t	p-value
Male Gender	−.009	−0.11	.914
Age	.094	1.11	.267
13 Reasons Why	−.043	−0.53	.594
Family Involvement	−.126	−1.48	.142
Bullying Victimization	.104	1.13	.261
Perceptions of Parental Love	.036	0.44	.660
Neuroticism	.077	0.80	.424
Real-life Suicide Exposure	.195	2.29	.024
Parental Aggressiveness	−.004	−0.05	.964

significant ($R = .565$, $R^2_{adj} = .278$, F [9. 152] = 7.90, $p < .001$.) Bayes Factor analysis regarding the inclusion of the fictional suicide themed media variable indicated better outcome for the model including the variable (BF = 37,876,422) than without (BF = 20,253,954) confirming the utility of this variable. For parent rated suicidal ideation for their youth, *13 Reasons Why* did not predict suicidal ideation. The overall model was statistically significant ($R = .328$, $R^2_{adj} = .055$, F [9. 152] = 2.03, $p < .039$.) Only real-life suicide exposure was a significant predictor.

Discussion

The issue of whether fictional media with suicide themes such as the show *13 Reasons Why* contributes to youth suicides remains controversial. At present, data remains unclear, although certain groups such as the National Association of School Psychologists (2017) have warned about potential harms of suicide contagion from fictional media shows. The current analysis sought to explore this issue in a sample of 174 youth and their families. Concerns about fictional media with suicide themes and *13 Reasons Why* specifically were not substantiated. Watching suicide themed fictional media was associated with *lower* depression and had no relationship with suicidal ideation in youth and parent reports. The show *13 Reasons Why*

was likewise associated with reduced youth and parent reported depression as well as reduced suicidal ideation as reported by youth, with no relationship with parent ratings of suicidal ideation in their youth. Taken together, these results suggest that suicide themed fictional media is associated with positive or neutral emotional states but not adverse behaviors.

The current study improves on prior research in several ways. First, it is preregistered, reducing the potential for questionable researcher practices or researcher expectancy effects to influence results. Second, it utilized standardized and well-validated clinical outcome measures. Third, it benefited from both parent and youth reports, reducing potential for single-responder bias. Fourth, it employed reliability checks for careless or mischievous responding.

On the whole, these results fit well with several other studies suggesting that fictional media with suicide themes may have more positive influences than negative. By contrast, they appear to conflict with several aggregate studies suggesting increased suicides after the *13 Reasons Why* show. However, as discussed in the literature review, there are sound reasons to view these aggregate studies with some skepticism as it is unclear that their evidence really shows the increase in suicides that might have been expected from true causal impacts.

The current data is correlational, and thus no causal attributions can be made. However, it is worth exploring several explanations for why viewing suicide themed fictional media is associated with lower depression (and, in the case of *13 Reasons Why* potentially reduced suicidal ideation.) First, it may simply be the case that watching such shows, as with other forms of controversial media, is developmentally normative in the sense teens are generally attracted to edgy content (Kirsh, 2010; Olson, 2010). Such shows may not have causal impact, but failure to watch such shows may be unusual enough to present a small red flag that the youth isn't behaving as most youth do. Similar findings have been found, for instance, for violent video games wherein *not* playing such games may be associated with violent acts (Markey et al., 2015). Another possibility is that such shows offer opportunities for youth to talk with each other and with parents about issues related to depression and suicide, a possibility in line with several recent studies (Arendt et al., in press; Wartella et al., 2018). A third possibility is that such shows may have a mood management influence, providing a situation wherein viewers are able to use the shows to relate to characters with similar issues and, in doing so, feel less alone or unusual and reduce their own stress. This possibility is in line with findings in other areas related to mood management in media (e.g., Kneer & Rieger, 2016; Rieger et al., 2015). This is also supported by the unexpected observation that watching fictional suicide-themed media was correlated moderately strongly with reduced perceptions of parental love ($r = -.406$). It's possible that youth who view such shows may, to some degree, use them to identify with parasocial characters experiencing similar home issues (Hall, 2019).

It is worth noting that the current results were not supportive of expectations from SCT. This comports well with other data, from other areas of media effects (e.g., Read et al., 2016; Sauer et al., 2015) that SCT may not be adequate for describing media effects. It may be time to turn to alternative models of media effects such as Uses and Gratifications and Self-Determination Theory in order to better understand the nuances of media effects.

Regarding the other predictors in the study, the most startling finding was how little family variables influenced depression or suicidal ideation. The main exception was exposure to real-life suicides which tended to predict both depression and suicidal ideation. Thus, current study results suggest that potential contagion through peer and family units is a far greater reality than is contagion through fictional media. Neurotic personality traits and bullying victimization also tended to be reasonably consistent predictors of negative emotions as well. Although personality traits may be difficult to address, reducing bullying victimization may be a far more worthwhile pursuit in reducing youth depression and suicide than is focusing on fictional media.

Indeed, this highlights one risk of the news furor over *13 Reasons Why*: policy makers, educators and parents may be distracted from more viable concerns regarding youth suicide. This is particularly true when press releases for some studies (e.g., Bridge et al., in press) are not necessarily an accurate representation of the data available in the study and were not interpreted in a manner that would have been appropriately cautious. Media-based moral panics can cause significant misinformation and misallocation of resources (Orben & Przybylski, 2019b). Therefore, it behooves scholars to be more cautious in their interpretations and communications, particularly of ambiguous results.

Suicide themed media and society

The concerns around *13 Reasons Why* were so protracted, this resulted in the producers of the show self-censoring out the most graphic elements of the suicide. While this may be understandable as a facet of good taste, current result suggest this is likely to be of limited value in terms of suicide prevention and may have negative repercussions related to censorship of controversial media. This raises the question of whether concerns about fictional media deserve the arguably outsized attention they receive, relative to other issues involving suicide, and whether there are societal response costs for this focus on fictional media.

It is worth observing that most shows with suicide themes or images don't attract controversy. *13 Reasons Why* arguably did due to a combination of its popularity, the graphicness of the scene, the involvement of teens, and

concerns the context might have romanticized suicide. Curiously, *Romeo and Juliet* despite having most of those same elements, aside from the graphicness, continues to be taught in many schools. Thus, arguably, societal concerns about suicide media are themselves context specific, and it is suggested here can be understood as a pattern of generational conflict over media wherein media popular with youth (*13 Reasons Why*) is considered more damaging than media popular with older adults (*Romeo and Juliet*).

Regarding suicide prevention, at present, neither this study nor past research has indicated that a focus on fictional media is likely to greatly impact suicide rates among youth. Maintaining such a focus may come at a credibility cost for suicide prevention advocates and groups and may distract from more pressing issues such as peer networks, family environment, access to care for mental illness, and exposure to bullying. Evidence from this study suggests that bullying victimization as well as long-term mental health issues as indicated by neuroticism tend to be more relevant to the prevention of suicide. Further, individuals who have been exposed to suicides among people in their real lives appear to be particularly at-risk for depressed moods and suicidal ideation. As such, prevention specialists may with to particularly identify such youth and offer them access to services.

As with any study, this one has limitations that are worth noting. First, it is correlational, and causal attributions can not be made. Second, larger samples would be desirable to increase generalizability, although caution is noted in overinterpretation of trivial effects in larger samples. Large, pre-registered studies using similar methods would certainly be welcome. Third, the online format is likely to miss certain populations of youth, particular those with limited access to technology or for whom parental involvement is limited. Fourth, this study examines youth from the general population, not those necessarily at-risk for suicide. It is possible results may differ for a vulnerable population of youth. In the current study, the sample size was too small to test separate analyses by gender without losing power. Bivariate correlations did not find a correlation between gender and fictional media suicide, suggesting lack of evidence for a moderating role. However, future studies with larger samples could examine this more directly. Fifth, there may be other ways to assess viewership differently from the current approach. Although the current study borrowed an approach previously used for books (Ferguson, 2014), it's possible that other approaches, such as focusing on favorite shows or using media diaries, may produce differing results. Lastly, the current study considered how youth had accumulated exposure to various forms of suicide-themed media, but did not examine issues such as how many seasons were viewed, whether parents coviewed, etc. These would be worth considering in further analysis.

Concluding statements

Debates about whether fictional media causes suicide contagion are likely to continue into the foreseeable future. At present, it appears that beliefs about this phenomenon often persist in the absence of good data to support them. Presently, neither past studies, nor those more recently with *13 Reasons Why* specifically have been able to demonstrate correlational, let alone causal connections between such media and real suicides in real life. The present study adds to the available data suggesting that links between fictional media and depression or suicidal ideation are difficult to substantiate. It is suggested that, in the future, scholars and advocates take a more cautious stance in advocating for such beliefs.

Notes on contributor

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