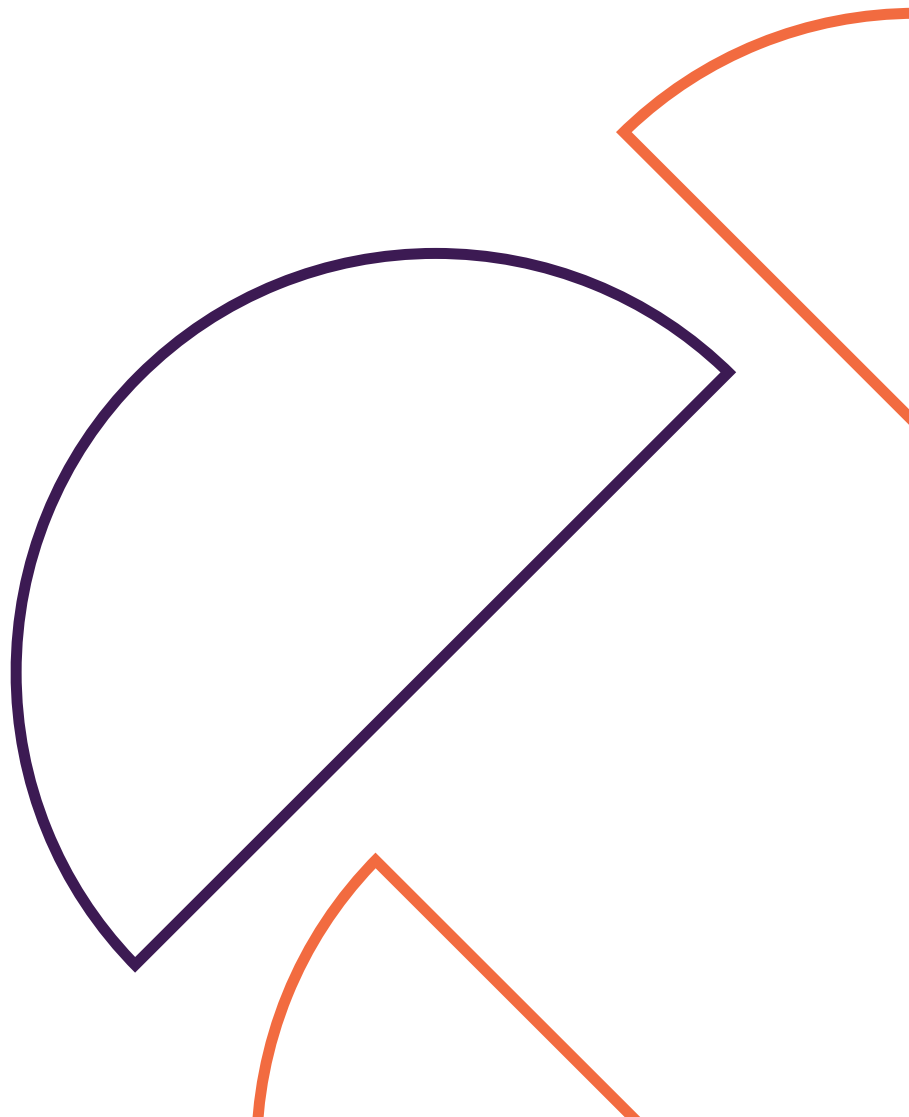


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Suicide and the entertainment media

A Critical Review

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Executive summary

This critical review was written by Jane Pirkis and Warwick Blood, Georgina Sutherland and Dianne Currier. It is a review of an earlier critical review published in 2010. The work was commissioned by **Everymind** as part of *Mindframe*, with funding from the Australian Government Department of Health.

Background

The question of whether media portrayals of suicide can lead to imitation has been debated for over two centuries, but it is only in the last 50 years or so that scientific studies have been conducted on this subject. This review considers studies of entertainment media (film and television, music, and plays). The current review constitutes an update of an earlier review of the entertainment media (Pirkis, Blood, Francis & McCallum, 2005). It is accompanied by a review of studies of the news and information media (Pirkis, Blood et al., 2018).

Method

Article selection

Searches of MEDLINE, PSYCHLIT, PSYCINFO, COMMUNICATION AND MASS MEDIA COMPLETE, ERIC, DISSERTATION abstracts and APAIS were conducted from these databases' respective years of inception to November 2017. The search aimed to retrieve English-language articles containing the following elements (truncated search terms are listed in brackets):

- Suicide (suicid*);
- Imitation (werther, copycat, imitat* or contagio*), and
- Media (media or (film* or televis* or movie*) or (music* or song*) or (play* or theat*).

Potentially relevant references were retrieved by this means, and their reference lists scanned for further possible articles. Efforts were also made to discover unpublished articles of relevance.

Study classification

Studies considering the association between entertainment media presentation of suicide and actual suicidal behaviour were excluded if the media type was not explicit. As noted above, three media types were included: film and television, music, plays. Studies classified by study type as follows:

- Descriptive studies: These were defined as detailed studies of individual cases or group of individuals with no comparator.
- Analytical studies: These were defined as studies of groups of individuals where a comparison was made with another group. The analytical studies were divided into two subtypes:
 - > Ecological studies: These were studies in which the outcome variable (usually suicide rates) for one group was compared with that for another group. The groups were usually differentiated by location (for example, suicide



rates in one United States city in which a media stimulus was presented versus suicide rates in another in which no stimulus was presented), or by time (for example, suicide rates during the month in which a media stimulus was presented versus suicide rates during a month in which no such stimulus was presented). A key characteristic of ecological studies is that the data are analysed at the aggregate level, rather than the individual level

> Individual-level studies: These were studies in which the outcome variable for individuals in one group was compared with that for individuals in another group. Typically, the outcome variable was a self-reported attitude towards suicide or likelihood of suicidal behaviour. Groups were differentiated by type of media stimulus (for example, one group might be exposed to a film with suicidal content and the other might be exposed to a film with neutral content). A key characteristic of individual-level studies is that the data are analysed at an individual level. This is made possible because the exposure status and the outcome status of each individual is known.

Critically reviewing the studies

This review gave consideration to methodological issues associated with each body of studies, and critically examined the effect of these issues on the interpretation of findings. Particular attention was given to the extent to which any methodological issues limited inferences that could be made about the relationship between portrayal of suicide in the given media and actual suicidal behaviour. Any relationship was considered in terms of: (a) the strength of the association; and (b) the extent to which it could be considered causal. Hill (1971), among others, has suggested that the following criteria should be used to judge whether a given association is causal.

- Consistency: The association between media portrayal of suicide and an increase in actual suicides is consistently observed, regardless of study design and population sampled.
- Strength: The association is statistically significant, and there may be evidence of a dose- response effect such that the greater the exposure to the media portrayal of suicide, the greater the increase in suicide rates.
- Temporality: The association should make sense in chronological terms, in that the exposure variable (media portrayal of suicide) should have occurred before the outcome variable (actual suicides).
- Specificity: The association is clear, such that most people who experience the outcome of suicide have been exposed to media portrayal of suicide. It is acknowledged that the multi- factorial risk factors for suicide means that some of those who suicide will have been exposed to or exhibit other risk factors.
- Coherence: The association should be in line with known facts concerning the outcome of interest; actual suicides, attempted suicides, or suicidal ideation. There should be a reasonable explanation for the association in this light. This criterion could be extended as a requirement to rule out rival explanations, especially in the context of known theory.



Key findings

In total, 54 studies on the association between presentation of suicide in entertainment media and actual suicidal behaviour were identified. Table 1 provides a breakdown of these studies by media type and study type.

Table 1: Studies concerning the association between presentation of suicide in entertainment media and actual suicidal behaviour

	Descriptive studies	Analytical studies: ecological	Analytical studies: individual-level	Total
Film and television	4	21	9	34
Music	2	3	14	19
Plays	0	0	1	1
Total	6	24	24	54

Film and television

In total, 34 studies (four descriptive studies, 21 ecological studies and nine individual-level studies) have been conducted examining the relationship between portrayal of suicide in film and television dramas and actual suicidal behaviour. The majority of these have provided at least some evidence to suggest that an association between film and television portrayals of suicide and actual suicidal behaviour exists and therefore, that these media may exert a negative influence. In terms of satisfying the criterion of *consistency*, however, it must be acknowledged that in some cases this evidence has been relatively weak. In terms of *temporality*, it is fair to say that it has been demonstrated relatively consistently that the stimulus preceded the response.

It is difficult to be so certain about the *specificity* of the association, because studies which have considered whether those who attempted suicide were influenced by having seen the given television drama, have produced equivocal results. In terms of *coherence*, then, it seems reasonable to hypothesise that to the extent there is an association, it might be explained by imitation. On balance, therefore, it is probably not the case that the association could yet be described as causal.

Music

In total, 19 studies (two descriptive studies, three ecological studies and 14 individual-level studies) have been conducted examining the relationship between the presentation of suicidal themes in particular



musical genres and actual suicidal behaviour. Around two thirds of these have provided at least some evidence to suggest that an association between depictions of suicide in songs and actual suicidal behaviour exists and therefore, that these various musical genres may exert a negative influence. However, a significant minority of studies in this area have found no evidence to support this hypothesis, suggesting that the finding is not *consistent*. It is fair to say that when an association has been observed it is often *strong*, in the sense that a dose-response effect (where greater affinity with the given music is associated with higher levels of suicidality) has often been identified. This group of studies fails to demonstrate that the association satisfies the criterion of *temporality*, because virtually none of them enable judgements to be made about whether fanship of a particular type of music preceded the risk of suicide or vice versa (or whether a third variable preceded both). The association has some *coherence*, in the sense that music has been shown to influence the way in which individuals who are part of a particular cultural group behave, and music has been shown to influence mood. Overall, the association between music with suicidal content and actual suicidal behaviour is yet to be shown to be causal.

Plays

The single study in this area found that a fictional play about suicide had no impact on the depression levels or suicidal potential of audience members, regardless of the mode of presentation, at least for 'normal' undergraduate students. With no association demonstrated, the question of causality becomes a moot point. Having said this, caution should be exercised in drawing conclusions from a single study.

Conclusions

According to social learning theory, there is good reason to expect that entertainment media depictions of suicide could lead to imitation acts: such portrayals are widespread, often send a message reinforcing suicide as a course of action, often include graphic footage of the method of suicide, and often appeal to young audiences. Scientific studies that have explored the hypothesis that such a relationship exists have produced equivocal results, but over half of these studies have suggested that there is evidence of a harmful imitation effect. Not all studies have limited themselves to considering negative consequences; some have also explored whether fictional portrayals of suicide could have an educative or preventive effect, and again the findings are equivocal. Methodological differences may explain some of the contradictory findings, but the real explanation probably lies in the interaction between the characteristics of different screenings and the characteristics of different audiences and the social environment.

Further research in this area is warranted but, in the meantime, there is a need to err on the side of caution. Mental health professionals and suicide experts should collaborate with film makers, television producers, members of the music industry and playwrights to try to balance entertainment against the risk of harm, and to promote opportunities for education. Sensitive portrayal of suicide that does not glorify or romanticise it and does not provide detail of the exact method is likely to be preferable, as are depictions that stress consequences for others, potential hazards of particular methods, and sources of help for vulnerable viewers.



Chapter 1: Introduction

Debate about whether fictional portrayal of suicide in the entertainment media can lead to imitation began in the late 18th century, when Goethe released his 1774 novel entitled *The Sorrows of Young Werther*. In this novel, the protagonist fell in love with a woman who was beyond his reach, and consequently decided to end his own life. He dressed in boots, a blue coat and a yellow vest, sat at his desk with an open book and took his own life. The launch of the novel was followed by a spate of suicides across Europe, with strong evidence that at least some of those who died by suicide were influenced by the book – they were dressed in a similar fashion to Werther, adopted his method, and/or the book was found at the scene of death. For example, one young man took his own life and was found with a copy of the book lying by his side, after using a method that was highlighted in the book. Another young man died after a fall with a copy of the book in his vest, a young woman also took her own life with a copy of the book in her pocket, and another young woman took her own life in bed with a copy of the book under her pillow.

The book was banned in various European countries, including Italy, Germany, and Denmark, despite a disclaimer included in later editions, which concluded, ‘Be a man, he said; do not follow my example’ (Minois, 1999; Thorson & Oberg, 2003).

Phillips (1974) coined the term ‘Werther effect’ to describe the hypothesised association between portrayal of suicide and imitation acts, where an observer copies behaviour he/she has seen modelled in the media. He intended the term to be used broadly, referring to both fiction and non-fiction media, and to imitation acts across the spectrum from completed suicide through attempted suicide to suicidal ideation.

Until the 1960s, debate about the Werther effect was based on anecdotal reports and impressions, with little in the way of social scientific inquiry. Since then, however, there has been a plethora of studies examining the relationships between media portrayals of suicide and subsequent suicidal behaviours, albeit more examining news and information media than entertainment media. This review considers studies of entertainment media (film and television, music, and plays). It constitutes an update of several earlier reviews of studies of the entertainment media (Pirkis and Blood, 2001a; Pirkis and Blood, 2001b; Pirkis et al, 2005; Pirkis and Blood 2010). It is accompanied by a review of studies of the news and information media (Pirkis et al, 2018).



Purpose and scope of the literature review

This report provides a systematic review of relevant studies in the area. It considers studies that have looked at the relationship between entertainment media portrayal of suicidal acts and actual suicidal behaviours or thoughts. Consistent with guidelines produced by the National Health and Medical Research Council (1999), the purpose of the review is 'to evaluate and interpret all available research evidence relevant to the question [is there a causal link between news media reporting of suicide and actual suicidal thoughts and acts?]' . The findings of individual studies are drawn together in a consistent manner, in order to determine whether the media does exert a causal influence on suicidal behaviour.

The review is 'systematic' in the sense that it: (a) makes a concerted attempt to identify all relevant primary research; (b) makes judgements about the overall quality of the literature; (c) systematically synthesises the findings of studies of acceptable quality; and (d) makes judgements about the extent to which the studies suggest there is a causal association between media presentations and actual suicidal behaviours/thoughts. These features are consistent with the definition of a 'systematic' review as provided in the National Health and Medical Research Council (1999) guidelines.



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Daly, Bourke and McGilvray (1991) acknowledge that these criteria are fairly stringent, but suggest that they should provide guidance in determining whether an association is causal. This review therefore makes qualitative judgements about the extent to which a given body of studies meets these criteria. Other reviews and commentaries concerning the entertainment media exist (Gould, 2001; Gould, Jamieson, & Romer, 2003), but none have used these criteria to assess causality.



Chapter 2: Film and television

Descriptive studies

Geeta and Krishnakumar (2005) reported a single case study in India of a 9-year-old boy who attempted to take his own life. The boy survived, and when he was interviewed later he said he had not witnessed any similar suicide attempt among his family, friends or neighbours, but had seen a television serial in which a person had taken the exact same course of action after a quarrel.

In France, Saint-Martin, Prat, Bouyssy and O'Byrne (2009) also reported a single case study. Theirs concerned a 32-year-old man who was found dead from asphyxia in the cab of his truck. A DVD of *The Life of David Gale* was found in the glove box. This fictional film depicts a suicide by asphyxia, and contains a long sequence in which the details of the method are clearly described.

In the United Kingdom, Zahl and Hawton (2004) conducted a larger descriptive study in which they interviewed 12 young people (aged 17-25) who had recently engaged in an episode of self-harm about the influence of media stories (both fictional depictions in the entertainment media and reports of real cases in the news media) on their actions. Seven recalled seeing a television soap opera depicting suicide, and three reported that this had influenced their own actions. Five recalled seeing a film with suicidal content, and four said that this had been a factor in their own suicide attempt.

In a study of Canadian college students Pouilot and colleagues (2011) also asked participants if they had been exposed to suicidal 'scenes' on TV, in films or music videos. They were then asked about their reactions to those scenes. Thirteen percent of participants who had been exposed said they were afraid that they would engage in the same behaviour as the protagonist, and the same number said they had thought of imitating the protagonist.

Analytical studies: Ecological

A number of ecological studies have examined the association between a fictional presentation of suicide and subsequent suicides. Their findings are equivocal.

In the United States, various authors have presented evidence for an imitative effect of fictional television programs depicting suicidal behaviour. These studies have varied in size and scope, with some presenting data on a local scale and others presenting regional or national data. At the small-scale end, Ostroff and his colleagues observed an increase in the number of overdose presentations to their psychiatric and paediatric services in the two weeks following the screening of *Surviving*, a television film about a teenage couple who jointly suicided by overdose {Ostroff, 1987}. The first two people to present after the film were an adolescent couple who had attempted suicide by overdose in a pact similar to that depicted in the film.

In a larger-scale study in the United States, Gould and Shaffer (1986) identified four television movies



dealing with suicide and screened on network channels in 1984–85. Broadcast 1 involved a suicide pact between two high school students, one of whom eventually died by suicide. Broadcast 2 dealt with a high school student with multiple problems who died by suicide, and described the reactions of those around him. Broadcast 3 involved a teenager's attempts to prevent his father taking his own life. Broadcast 4 depicted the joint suicides of an adolescent boy and girl.

Using a simple before-and-after design, Gould and Shaffer found the mean number of suicide attempts by young people reported to New York hospitals was significantly higher in the two-week period following each of the observed broadcasts than it was in the two weeks prior to each. Excluding Broadcast 2 from the analysis because it was accompanied by educational and preventive material, they also observed a significant increase in suicides by adolescents from the pre-broadcast periods to the post-broadcast periods.

A number of attempts were made to replicate Gould and Shaffer's (1986) findings. Phillips and Paight (1987) duplicated Gould and Shaffer's methods, and considered teenage suicides in California and Pennsylvania. Gould, Shaffer and Kleinman (1988) extended their original study geographically to include the Cleveland, Dallas, and Los Angeles metropolitan areas. Berman (1988) reanalysed Gould and Shaffer's (1986) data, excluding Broadcasts 1 and 2 on the grounds that there was overlap between the two-week period preceding the latter and the two-week period following the former. Berman also added an additional film (Broadcast 5), which dealt with the impact of an adolescent male's suicide. On a national basis, Berman considered the total number of suicides, the number of adolescent suicides, and adolescent suicides as a proportion of total suicides. None of these studies found evidence for an overall increase in teenage suicides following the broadcasts, although there was some evidence of location-specific (Gould et al., 1988) and method-specific (Berman, 1988) effects.

Phillips (1982) conducted a broader-ranging study in which he obtained death certificate data on all United States suicides and motor vehicle deaths for 1977, and considered these in the light of soap operas in which there was a suicide theme. He was unable to identify the day on which a given episode was screened, but could determine the week from summaries listed in a newspaper column called *The Soaps*. After controlling for a range of factors, he examined trends in the latter half of any week in which a relevant soap opera episode was screened, and found that suicides and motor vehicle fatalities increased immediately following soap opera suicide stories. Kessler and Stipp (1984) shed doubt on these findings, however, when they observed that Phillips had misclassified the date of more than half of the screenings and had failed to include a number of soap opera stories. When they corrected these errors and reanalysed the data, Kessler and Stipp found no effect of soap opera stories on actual suicides.

Comparable work has been done in the United Kingdom. Holding (1975) examined the effect of a BBC series called *The Befrienders* on actual suicides. Based on the Samaritans, this was shown in Edinburgh over an 11-week period in 1972. Holding considered the number of suicides in Edinburgh and the number of presentations to the Regional Poisoning Treatment Centre at Edinburgh's Royal Infirmary for suicide attempts during the three 10-week periods prior to, during and after the screening of the series. When he made comparisons with the corresponding periods in the three previous years and the subsequent year, the results showed no effect of the series on the frequency of completed or attempted suicides.



Ellis and Walsh (1986) examined the impact of an episode of the widely viewed soap opera *EastEnders*, in which Angie, a popular female character aged in her mid to late 30s, attempted suicide by overdose. In the week after the episode was screened, 22 patients who had overdosed were admitted to their local emergency department in East London, compared with weekly averages of fewer than seven for the preceding 10 weeks and the preceding 10 years. Similar findings were reported in local facilities in Nottingham by Sandler, Connell, and Welsh (1986) and Newcastle-upon-Tyne by Fowler (1986). However, according to an anecdotal report by Daniels (1986) no effect was observed in Northampton.

These small-scale studies were extended in depth and breadth by Williams, Lawton and Ellis et al (1987) and Platt (1987), respectively. The findings suggest that the above observed effect may not be consistent. Williams et al examined people attending two London hospitals (Hackney and St Bartholomew's) for deliberate self-poisoning in the two weeks before and after the screening of the episode, and in the corresponding periods in two control years. They found that there was an increase in overdoses, but that this increase began before the program was screened. They examined the file notes of cases who had overdosed during the experimental period, as well as the file notes of controls who had overdosed in a period not less than a month after the episode. They found that controls were more likely to have made previous attempts, but that cases were more likely to have used analgesics as Angie did.

Platt (1987) examined suicide attempts in 63 hospitals with large emergency departments across the United Kingdom in the context of the relevant episode of *EastEnders*. He considered the number of attempts in the week after the screening of the episode, and compared this with the number in the week before, adjusting for trends in the previous year. He found no overall significant effect, but a significant increase in suicide attempts by women (although not particularly for women in Angie's age group).

Also in the United Kingdom, Collins (1993) examined the numbers of teenage girls presenting to the Alexandra Hospital in Redditch in the weeks before and after the screening of an episode of *Casualty* in which a 15-year-old girl ingested a large quantity of a specific medication (screened on 9 January 1993). Collins observed an increase in presentations. Waldron, Walton and Helowicz (1993) made the same observation among women presenting to the South West Thames Region, but noted that similar significant increases were observed at other times, which suggested that the effect was due to seasonal fluctuations.

When the episode was repeated on 16 July 1993, Simkin, Hawton and Whitehead et al (1995) took the opportunity to consider its impact on cases of deliberate self-poisoning or self-injury presenting to the general hospital in Oxford. Using more sophisticated design and analysis strategies than their predecessors, they examined the number of such presentations in the three weeks after the screening, relative to the number in the three weeks before. Controlling for a range of factors, including trends in the previous two years, they found that although the raw numbers suggested an increase, there was no evidence of any statistically significant effects attributable to the program.

A subsequent study considered the impact of another episode of *Casualty*, screened some years later (2 November 1996) (Hawton, 1999; O'Connor, 1999). One of the major storylines in this episode involved an RAF pilot with multiple problems who attempted suicide, again by ingesting a large quantity of a specific medication. This study used a similar methodology to that of Simkin, Hawton



and Whitehead et al (1995), but expanded the study to 49 emergency departments and psychiatric services across the United Kingdom and considered deaths data from across England and Wales. Although they found no impact of the program on deaths from poisonings by the medication depicted, the investigators found that there was a significant increase in presentations for self-poisoning in the three weeks following the broadcast of the episode, with the effect being particularly strong for overdoses by the medication depicted.

By contrast, Pell and Murdoch (1999), who used data on admissions and deaths attributed to self-poisoning across Scotland between 1995 and 1997 in order to examine the impact of the same Casualty episode, found that the number of admissions for all self-poisonings decreased in November 1996. The number of admissions for medication poisonings rose slightly, as did the number of deaths from self-poisoning, but both could be explained by chance variation.

Veysey, Kamanyire and Volans (1999) argued that medication poisoning is relatively common, and therefore susceptible to random fluctuations. They suggested that any effect might be more reliably demonstrated with poisoning by a rarer agent. They considered incidents of self-harm by ingestion of a rarer substance reported to the National Poisons Information Service in London, in the context of an episode of Casualty shown on 15 February 1997 in which a suicide attempt by this method was depicted. They found that there was a significant increase in such cases in the month in which the episode was shown.

Schmidtke and Hafner (1988) used a unique design approach to consider the impact of fictional television presentations of suicide on the behaviour of individuals. At best, all other ecological studies in this area have been able to show that there is a one-off association between the screening of a television program depicting suicidal behaviour and an increase in completed or attempted suicides. Schmidtke and Hafner took advantage of the fact that a six-episode series depicting the suicide of a 19-year-old male student was broadcast twice in Germany (once in 1981 and again in 1982), to examine the consistency of any impact. They found that after each series there was a significant increase in German suicides involving the same method as that used by the student in the series. The effect lasted for at least 70 days, and was most marked among 15 to 19-year-old males.

A key condition for establishing that any association is causal is determining that those who attempted or completed suicide after the presentation of the given television program actually saw the stimulus and were influenced by it. Clearly, this is difficult to establish in the case of completed suicides, but efforts have been made in some of the above studies where the dependent variable has been suicide attempts.

Relevant information has been elicited by interview or questionnaire from people who have made an attempt on their life who presented after the television program was transmitted. The results have varied.

Ostroff, Behrends and Lee et al (1985) and Ostroff and Boyd (1987) asked the adolescents who attempted suicide after the broadcast of *Surviving* whether they had seen the program, and all confirmed that they had. Collins (1993) specifically questioned four (of a total of 11) girls presenting after the Casualty episodes shown in 1993, and all four disclosed having seen it. Hawton, Simkin and Deeks et al (1999) found that, of those who presented in the week after the 1996 episode of Casualty and completed a questionnaire, about 20% had seen the broadcast and about 4% said that it had



influenced their decision to take an overdose.

A questionnaire administered to those who presented after one of the 1993 Casualty episodes by Simkin, Hawton and Whitehead et al (1995) revealed that very few had seen the program, and still fewer had been influenced by it.

Not all studies have hypothesised that fictional portrayals of suicide on television will have a negative effect. Some have suggested that appropriate portrayals (for example, those that emphasise the negative consequences of suicide on those left behind or indicate alternative courses of action) could have a positive, educative effect and have found this to be the case. For example, Holding (1974; 1975) found that the screening of *The Befrienders* was associated with increased knowledge of, and referrals to, the Samaritans. Likewise, in an extension of the study by Hawton, Simkin and Deeks et al (1999), O'Connor, Deeks and Hawton et al (1999) found evidence to suggest that the 1996 episode of *Casualty* increased the general public's knowledge of the effects of paracetamol. Hawton et al found that knowledge of people who have made an attempt on their life was also increased, and that this sometimes had positive effects (for example, some patients avoided using paracetamol because the episode highlighted the risk of liver damage).

These findings are consistent with the anecdotal report of Stinson et al (1993) about a person who had seen the same episode of *Casualty* and advised a friend who had overdosed on paracetamol to act urgently and seek medical help.

All of the ecological studies described above focus on film and television shows produced in the 70's, 80's and 90's: the most recent being an episode of *Casualty* screened on television more than 20 years ago (February 1997). It is not clear whether lack of contemporary research reflects a more informed film and television industry in terms of their approach to fictional depictions or signals less interest from a research perspective. Nevertheless, debate about the potential imitation effects on fictional portrayals was thrown back into the spotlight this year, when from March to April in 2017 the television series *13 Reasons Why* screened for the first time in the United States and was shortly available via internet based streaming services globally. It attracted media attention for its graphic depiction of the suicide of a teenage girl, each episode covering one of 'reasons' she chose to end her life, ranging from bullying, sexual assault and social exclusion. To date, only one early ecological study has appeared examining the volume of internet searches on suicide-related terms during the period of the first screening in the USA. It did not include any assessment of actual suicide outcomes (Ayers et al, 2017). The authors found that suicide queries were significantly greater than expected on 12 of the 19 days included, ranging from 15% to 44% higher (95% CI's 3-32% and 28-65% respectively). Queries on methods and instructions for suicide were also higher but so were queries for hotline information and public awareness searches such as 'suicide prevention'.



Analytical studies: Individual-level

Individual-level studies provide additional evidence regarding the impact of fictional television or cinematic presentations on the tendency to suicide among the general population. The first two (Range, Goggin, & Steede, 1988; Steede & Range, 1989) involved a similar design, whereby subjects (students) viewed a videotaped vignette of a teenage girl experiencing problems. The information was varied, such that some subjects were told that the girl had friends or acquaintances who had recently died by suicide (or died in a plane crash) and others were told nothing about any extenuating circumstances. After viewing the videotape, subjects were asked questions about the likelihood of contagion. Together, the findings of the studies suggested that viewers respond to contextual information, and if they put themselves in the place of a fictional suicidal character they were more likely to report that behavioural contagion would occur than if they viewed the character from the standpoint of a passive observer.

The third study, by Biblarz, Brown and Biblarz et al (1991) examined the impact of films depicting suicide and violence on attitudes towards suicide. The investigators recruited 119 non-suicidal university students and allocated them into three groups. The first group watched a film about suicide (*Surviving*), the second group saw a film about violence (*Death Wish*), and the third group saw a film with neutral content (*That's Entertainment*). Questionnaires eliciting information about attitudes towards suicide were administered before and after the films were viewed. The investigators found that participants were no more likely to have positive attitudes towards suicide as a result of watching the suicide film, although their arousal levels were temporarily increased after doing so.

Doron, Stein and Levine et al (1998) examined the influence of watching the film *Surviving* on three groups of patients in a psychiatric inpatient unit: 17 who had attempted suicide; 20 who had experienced suicidal ideation; and 10 who were not suicidal. They considered levels of anxiety (as assessed by a standardised anxiety scale and various psychophysiological measures) before and after the screening, and found few differences between the groups. The exceptions to this rule was the finding that the heart and respiration rates of the people who have made an attempt on their life changed significantly less during the course of the film than the other two groups', and that people who have made an attempt on their life experienced an increase in psychomotor agitation until the discovery of the suicide. Whereas non-suicidal patients experienced an ongoing increase in psychomotor agitation until the film ended.

More recently, Till and colleagues undertook a number of studies examining the effects of exposure to different types of movies on suicidality in samples of non-depressed, non-suicidal Austrians. In the first (Till et al, 2010) participants watched one of five different films – two depicting the protagonists suicide (one in less emotional terms), the same two films but with the suicide scenes censored, and one with a non-suicide death. They found no association between viewing suicide-related films and suicidality. In the second study there was also no association between suicidal ideation and exposure to films with suicide content (Till et al, 2014). In the third study (Till et al, 2015) participants viewed either a movie where the protagonist dies of suicide, dies of natural causes, or overcomes his suicidal feelings and has a happy life. There was no overall association with suicidal ideation for any group, however in the suicide film group, participants with higher baseline suicidality did have an increase in suicidal ideation after they viewed the film.



Stack and colleagues (2014) surveyed 260 US college students about their exposure to 11 movies depicting a suicide and past suicide attempt. They found that each additional movie exposure was associated with a 47% increase in risk of attempted suicide. Yet because the data was retrospective and cross-sectional data they could not determine if the people who have made an attempt on their life were more likely to seek out movies with suicide themes, or if viewing suicide-related movies contributed to suicide attempts.

In 2017, Salo and colleagues compared the number of young people presenting to a US emergency department for suicide ideation, attempt, depression, or mood disorders in the 41-day period before and after the premiere of the television series *13 Reasons Why*. They found that while there was a significant increase in overall presentations, there was no increase in presentations for suicidal ideation or suicide attempt.

Methodological issues

The three descriptive studies mentioned above suffered from the methodological problem of small sample sizes and no comparison groups. The four early individual-level studies (Range et al, 1988; Steede & Range, 1989; Biblarz et al, 1991; Dorron et al, 1998) overcame these issues, but were criticised for assessing somewhat tangential outcomes like attitudes towards suicide or psychophysiological arousal, rather than suicidal thoughts or behaviours. The five later studies largely overcome this limitation as they focus on more direct suicide-related outcomes including suicide risk, suicidal ideation, and suicide attempt (Till et al, 2010; 2014; 2015; Stack et al, 2014; Salo et al, 2017).

The ecological studies are the largest in number and the strongest in design, but they too have faced some methodological issues. Various authors have noted specific flaws in particular ecological studies, and this has often led to improvements in the design of replicative studies. Examples include the exclusion of Broadcasts 1 and 2 from Berman's (1988) replication of Gould and Shaffer's (1986) study, and Kessler and Stipp's (1984) reclassification of the date of screenings of the soap operas in their replication of Phillips' (1982) study. As a consequence, it is generally fair to say that these replications have been stronger in design than the original studies.

Other criticisms of the ecological studies are more general. One key criticism of some of the early studies is that they were done retrospectively and used aggregated weekly or monthly (as opposed to daily) (Deeks, Hawton, & Simkin, 1999; Kessler & Stipp, 1984). Later studies which disaggregated data to a daily level have tended to be stronger in terms of determining with greater certainty that the fictional portrayal of suicide preceded any change in actual suicidal behaviour. These later studies have also often been associated with more sophisticated time-series regression analyses, rather than simple before-and-after designs.

Even in ecological studies where it has been possible to determine that the media stimulus preceded the effect, it has been rare to find an investigation of whether suicidal individuals saw the stimulus (Berman, 1988; Hawton et al., 1999; Simkin et al., 1995). This has been a particular problem for studies where the outcome of interest was completed suicide, but even studies that have considered suicide attempts as the end point have often failed to determine whether the people who have made an attempt on their life saw the media stimulus. There are exceptions – for example, the studies by



Hawton, Simkin and Deeks et al (1999), Ostroff, Behrends and Lee et al (1985), Ostroff and Boyd (1987), and Simkin, Hawton and Whitehead et al (1995). Most other studies have been faced with the problem of the ecological fallacy (i.e., an inability to disaggregate any observed increase in completed suicide rates or attempted suicide rates to determine whether the increase actually occurred for viewers of the media stimulus).

Another criticism that has been leveled at the ecological studies has been their failure to consider factors that may have affected whether their findings could be generalised. Berman (1988) and Murray (1988), for example, noted the dangers in assuming that effects observed in a given city or state would be replicated elsewhere. Others have noted the importance of considering the nature of the fictional portrayal, suggesting that the likelihood of an imitation effect may be dependent on factors such as the degree of realism and the depiction of the consequences of the suicide (Berman, 1988; Gould & Shaffer, 1986; Sandler et al., 1986). The match between the model and the imitator has also been emphasised as an important factor (Schmidtke & Hafner, 1988).

Failure to control for alternative explanations for any increase in completed or attempted suicides has also been noted as a problem, particularly in some of the earlier ecological studies. Davies, Atherton and Williams et al (1999), Simkin, Hawton and Whitehead et al (1995) and Tanner (1988) also criticised studies that failed to control for potential confounders such as seasonal trends and holidays.



Summary and conclusions

In total, 34 studies (four descriptive studies, 21 ecological studies and nine individual-level studies) have been conducted examining the relationship between portrayal of suicide in film and television dramas and actual suicidal behaviour.

The majority of these have provided at least some evidence to suggest that an association between film and television portrayals of suicide and actual suicidal behaviour exists, and, therefore, that these media may exert a negative influence (see Table 2). In terms of satisfying the criterion of consistency, however, it must be acknowledged that in some cases this evidence has been relatively weak. Many of the studies that have demonstrated an effect have been small in scale or suffered from various methodological problems. Often, when these studies have been replicated or extended in scope, the results have indicated that the effect is not consistent. Findings that effects may be location-specific, method-specific or age/sex specific suggest that further work is needed to elucidate the characteristics of the model and the observer that may in combination increase the likelihood of an effect occurring.

Table 2: Summary of evidence from studies of film and television

	Descriptive studies (n=4)	Analytical studies: ecological (n=21)	Analytical studies: individual-level (n=9)	Total (n=34)
Some evidence to suggest negative influence of media	4	16	5	25
No evidence to suggest negative influence of media	0	5	4	9

It is difficult to be definitive about the strength of the association, since none of the studies specifically tested for the presence of a dose-response effect.

At least some of these studies allow statements to be made about temporality and specificity. In terms of temporality, it is fair to say that it has been demonstrated relatively consistently that the stimulus preceded the response. It is difficult to be so certain about the specificity of the association, because the studies by Hawton, Simkin and Deeks et al (1999), Ostroff, Behrends and Lee et al (1985), Ostroff and Boyd (1987), and Simkin, Hawton and Whitehead et al (1995), which have considered whether those who attempted suicide were influenced by having seen the given television drama, have produced equivocal results.



Coherence refers to the extent to which the findings make sense in the light of what is known about the influence of the media and suicide. The media is known to influence attitudes and behaviour in other areas. Suicide is a behaviour that has been shown to be imitated under certain circumstances (e.g., when the model shares characteristics in common with the imitator). In terms of coherence, then, it seems reasonable to hypothesise that to the extent there is an association, it might be explained by imitation.

In summary, the association between television portrayal of suicidal models in fictional films and television programs and subsequent completed or attempted suicides in the 'real world' is only of moderate consistency. Further work is needed before definitive statements can be made about the strength of the association. The association satisfies the condition of temporality, but the evidence regarding its specificity is equivocal. The association has coherence. Overall, it is probably not the case that the association could yet be described as causal.



Chapter 3: Music

Various descriptive and analytical studies have considered the association between music preference and suicide risk, particularly among young people. In the main, these studies have concerned themselves with heavy metal and country and western music, both of which are often characterised by pessimistic themes. Other musical genres have also been examined, but to a lesser extent.

Descriptive studies

Litman and Farberow (1994) described a law suit against the heavy metal band Judas Priest by the families of two youths who shot themselves after listening to the band's album *Stained Class*. Legal debate occurred over the impact of subliminal messages in the music, and the extent to which such messages could be implicated as either proximate or precipitating causes. The judge ultimately ruled that the influence of subliminal messages was unproven, and that there were many other situational factors and personality characteristics that predisposed the youths to suicide.

Stack, Kryszynska and Lester (2008) looked for historical evidence that *Gloomy Sunday* had influenced individuals to take their own lives. The song was written in 1933 by Hungarian composer Rezső Seres, and many versions have been recorded in different languages. It concerns a person whose lover has recently died and who wishes to die too. There were at least 17 suicides in Hungary that were linked to the song: some of those who died were listening to the song at the time of their death; others died clutching the sheet music; others left suicide notes quoting the lyrics. The song has also been implicated in suicides and attempted suicides elsewhere, and was banned in a number of places.

Analytical studies: Ecological

Stack and Gundlach (1992) examined radio industry data and mortality data in 49 metropolitan areas in the United States, and, after controlling for a range of factors, found that the greater the air time devoted to country music, the greater the white suicide rate. A replication of Stack and Gundlach's study by Maguire and Snipes (1994) suggested that country music did not have a significant effect on white metropolitan suicide rates, but Stack and Gundlach (Stack & Gundlach, 1994) contend that these findings resulted because Maguire and Snipes miscalculated the white suicide rates.

Stack, Gundlach and Reeves (1994) used a similar methodology to examine the relationship between heavy metal magazine subscriptions and youth suicide rates in 50 American states. Again, they found that, after controlling for other predictors of suicide, the stronger the heavy metal subculture, the higher the youth suicide rate.



Analytical studies: Individual-level

A number of individual-level studies have been conducted in the United States. Stack and Gundlach (1995) followed their 1992 ecological study with one that enabled the association between country music and suicide risk to be assessed at the individual level. Using data from the 1993 General Social Survey, they were able to show that country music fans were at significantly higher risk than non-fans, as measured by gun ownership and marital disruption. Stack (1998; 2000; 2002) also used data from this survey to examine the extent to which heavy metal fanship, blues fanship and opera fanship might be related to suicide acceptability. He found that, after controlling for religiosity, heavy metal and blues fans were no more likely to be accepting of suicide than their non-fan peers. However, he found that opera fans were significantly more likely to be accepting of suicide in circumstances where the individual has dishonoured his or her family.

Arnett (1991b) investigated the link between heavy metal music and reckless behaviours, using data from a self-report questionnaire administered to high school students in Atlanta, Georgia, who either liked heavy metal music (54 males and 135 females) or disliked heavy metal music (56 males and 105 females). Arnett found that those who liked heavy metal music were more likely to report reckless behaviours, have less satisfactory family relationships, and have low self-esteem. To the extent that these factors have been cited as risk factors for suicide, it can be inferred that those who liked heavy metal music were at greater risk.

Scheel and Westefeld (1999) also investigated the relationship between heavy metal music and the risk of suicide, surveying 121 American high school students. Those who identified themselves as heavy metal fans had less strong reasons for living and more thoughts of suicide than counterparts who did not consider themselves heavy metal fans.

Lacourse, Claes and Villeneuve (2001) conducted a similar survey-based study with 275 secondary school students. They found that, after controlling for other risk factors, heavy metal music preference and worshipping was not significantly related to suicide risk.

Lester and Whipple (1996) investigated the relationship between preference for a range of musical genres and suicidal tendencies, by administering a questionnaire to 35 male and 58 female undergraduates in the United States. The questionnaire included the Beck Depression Inventory, the Eysenck Personality Inventory and questions about previous suicidal thought and suicide attempts. Respondents were also asked to indicate how much they liked each of 20 types of music on a six-point Likert scale. Lester and Whipple found that a preference for country and western music was not associated with depression or suicidality, but that a liking for heavy metal music was associated with prior suicidal thoughts.

Martin, Clarke and Pearce (1993) undertook similar work in Australia. In their study, 138 male and 109 female students completed questionnaires that elicited information on music preferences, suicidal tendencies and risk-taking behaviours. They found significant associations between a preference for rock/metal music (as opposed to pop music) and suicidal thoughts, acts of deliberate self-harm, 'depression', 'delinquency', drug taking and family dysfunction, particularly for girls.

Burge, Goldblat and Lester (2002) also considered the relationship between music preference and suicidality, but argued that people rarely have preferences for a single genre. They surveyed 78 high



school students and before examining the relationship between music preference and suicidality conducted a factor analysis to determine how music preferences were grouped. They identified two types of individuals: those who liked heavy metal, classic rock, alternative and punk rock music; and those who liked country and pop rock. When they considered the extent to which membership of either of these groups was predictive of suicidality, they found that a liking for country and pop rock was predictive of suicidality, but only for males.

Ballard and Coates (1995) moved from looking at the impact of general preference for particular music genres to looking at the impact of particular songs. They selected six unfamiliar songs with coherent lyrics, three of which were rap songs and three of which were heavy metal songs. Within each group of songs, one had suicidal content, one had homicidal content, and one had non-violent content. 175 students were randomised to one of six genre-content conditions, listened to the relevant song, and then completed a range of anxiety, depression and suicidality measures. The investigators found no relationship between suicidal song content and levels of suicidality.

Rustad, Small and Jobes et al (2003) conducted two similar, inter-related studies. Study 1 involved 133 college students who were randomised into two groups that watched rock music videos with or without suicidal content (featuring the songs Jeremy and Even Flow by Pearl Jam, respectively), and completed a series of tasks afterwards designed to assess their suicidal thoughts and attitudes.

Study 2 involved 104 college students who were again randomised into two groups, each of which listened to and read the lyrics of three rock songs with or without suicidal content and completed a similar series of tasks to those required of participants in Study 1. In both studies, students who had been exposed to rock music with suicidal content were more likely to write stories with suicidal themes in a projective storytelling task than their counterparts who had been exposed to rock music with neutral content. However, differences between the two groups were negligible on all other measures of affect, attitudes and perceptions. The authors interpreted this as indicating that music with suicidal content may prime cognitions about suicide but not actively increase suicide risk.

Peterson, Safer and Jobes (2008) conducted a similar study involving 126 college students who were asked to listen to three rock songs with suicidal lyrics: Dirt, Desperate Now and Fade to Black. Prior to doing so, they completed standardised personality and mood instruments. After doing so, they repeated some of these and also completed some additional measures (e.g., on memory for lyrics) and a projective story-writing task. They found that underlying vulnerabilities to suicide (e.g., certain personality characteristics and knowing someone who had died by suicide) predicted the impact of suicidal lyrics on participants.

More recently, Till and colleagues surveyed 943 Austrians regarding 25 songs with suicide content and 25 non-suicide related songs from matched years. Participants were asked if they had heard the songs, how well they liked it, and about their current suicidal ideation and other suicide risk factors (depression, hopelessness, psychoticism and life satisfaction). They found that higher suicide ideation was not associated with any specific genre of music, and that preference for suicide-related songs had no association with suicidal ideation or any other suicide risk factor.

Several of the investigators responsible for the above studies have observed that while a liking for a particular kind of music may indicate a vulnerability towards suicide, it may not bear a causal relationship, or, if it does, the relationship may be positive. In fact, several of the above studies have



suggested that heavy metal music may elevate the mood of those who are at risk. For example, Arnett (1991a) conducted in-depth interviews with 35 adolescent males who liked heavy metal music. None reported that it depressed them, and indeed many reported that it calmed them if they were angry.

Likewise, the respondents in Scheel and Westefeld (1999) study indicated that listening to music had a positive effect on their mood. By contrast, Martin, Clarke and Pearce's (1993) respondents reported feeling worse after listening to rock or heavy metal music.

Methodological issues

The two descriptive studies described above suffer from the problems of relying on anecdotal reports, which limits their generalisability.

The above ecological studies have also been criticised on methodological grounds. Specifically, the criticism of the ecological fallacy (i.e., drawing conclusions about individuals on the basis of aggregated data) (Lester & Whipple, 1996; Mauk, Taylor, White, & Allen, 1994). So, for example, in Stack, Gundlach and Reeves's (1994) study, the finding that those areas where more air time was devoted to country and western music also had higher suicide rates does not necessarily mean that the suicides in those areas involved individuals who were country and western fans.

The individual-level studies have also faced methodological problems. All have involved cross-sectional surveys examining the association between preference for a particular type of music and risk of suicide (or some proxy for it). Where an association has been established, the cross-sectional nature of these surveys has militated against determining the causal direction of the relationship, leaving the following sorts of questions unanswered. Does an affinity for a particular music genre cause suicidal thoughts and behaviours, or alleviate them, as suggested by Arnett (1991a) and Scheel and Westefeld (1999)? Or do those with suicidal tendencies find themselves drawn to particular kinds of music? Or is there a third factor (or a range of factors) that causes both a risk of suicide and a liking for given types of music (e.g., lack of religious affiliation, as suggested by Stack (1998))?

Summary and conclusions

In total, 19 studies (two descriptive studies, three ecological studies and 15 individual-level studies) have been conducted examining the relationship between the presentation of suicidal themes in particular musical genres and actual suicidal behaviour.

Around two thirds of these have provided at least some evidence to suggest that an association between depictions of suicide in songs and actual suicidal behaviour exists, and, therefore, that these various musical genres may exert a negative influence (see Table 3). However, a significant minority of studies in this area have found no evidence to support this hypothesis, suggesting that the finding is not *consistent*.



Table 3: Summary of evidence from studies of music

	Descriptive studies (n=2)	Analytical studies: Ecological (n=3)	Analytical studies: Individual-level (n=15)	Total (n=20)
Some evidence to suggest negative influence of media	1	2	10	13
No evidence to suggest negative influence of media	1	1	5	7

It is fair to say that when an association has been observed it is often *strong*, in the sense that a dose-response effect (where greater affinity with the given music is associated with higher levels of suicidality) has often been identified.

This group of studies fails to demonstrate that the association satisfies the criterion of *temporality*. Virtually none of these studies was designed in a manner that enables judgements to be made about whether fanship of a particular type of music preceded the risk of suicide or vice versa (or whether a third variable preceded both). The single exception is the descriptive study by Stack, Krysinska and Lester (2008), which clearly identified some instances where an individual had heard the song *Gloomy Sunday* immediately prior to his or her death. To the extent that it is not possible to be definitive about the *temporality* of the association, the criterion of *specificity* cannot be satisfied.

The association has some *coherence*, in the sense that music has been shown to influence the way in which individuals who are part of a particular cultural group behave. Music has also been shown to influence mood.

In summary, the association between music with suicidal content and actual suicidal behaviour is yet to be shown to be causal.



Chapter 4: Plays

Descriptive studies

No descriptive studies were identified that examined the relationship between depiction of suicide in plays and actual suicidal behaviour.

Analytical studies: Ecological

No ecological studies were identified that examined the relationship between depiction of suicide in plays and actual suicidal behaviour.

Analytical studies: Individual-level

A study by Jackson and Potkay (1974) considered the impact of a one-act play about suicide called Quiet Cries on suicidal thought by audience members.

The study was novel because it varied the media by which the play was presented, such that 160 undergraduates were assigned to one of four conditions. Forty saw the play on stage, 40 watched it on television, 40 heard it on radio, and 40 were not exposed to it. All subjects completed before and after questionnaires about their levels of depression and suicide potential. The play, regardless of the media by which it was presented, did not increase levels of depression and suicide potential in audience members relative to controls.

Methodological issues

The study by Jackson and Potkay (1974) was unique in its efforts to examine whether the same fictional stimulus presented by different media can have different results. The strengths of the study were its individual-level approach, its random allocation of subjects to the different media conditions, and its before-and-after design. Together, these features allow statements to be made with some certainty about the causal effect of the play on subjects' levels of depression and suicide potential. The study's weakness was that it uses 'normal' undergraduates as subjects. Individuals already at risk of suicide may respond differently to fictional suicidal stimuli. Moreover, this study was conducted more than four decades ago and there have been no additional studies examining the influence of exposure to suicidal behaviour on stage.

Summary and conclusions

The single study in this area found that a fictional play about suicide had no impact on the depression levels or suicidal potential of audience members, regardless of the mode of presentation, at least for 'normal' undergraduate students (Jackson & Potkay, 1974) (see Table 4).



Table 4: Summary of evidence from studies of plays

	Descriptive studies (n=0)	Analytical studies: Ecological (n=0)	Analytical studies: Individual-level (n=1)	Total (n=1)
Some evidence to suggest negative influence of media	0	0	0	0
No evidence to suggest negative influence of media	0	0	1	1

With no association demonstrated, the question of causality becomes a moot point. Having said this, caution should be exercised in drawing conclusions from a single study.



Chapter 5: Discussion and conclusions

Summary of key findings

This review examined the literature on the association between suicides depicted in the entertainment media (film and television dramas, music and plays). It found that there was at least some evidence for an association between entertainment media portrayal of suicide and actual suicidal behaviour. Using strict criteria to assess whether this association could be described as causal (*consistency, strength, temporality, specificity and coherence*), it concluded that the jury is still out on this question with respect to the three genres it considered.

Further research is required to understand the relationship between depictions of suicide in the entertainment media and imitative suicidal behaviour. This is particularly the case with the changing landscape of delivery and consumption of film and television content. For example, with respect to film and television, while the ecological studies are still the largest in number (and maybe strongest in design), they are also based on film and television viewing practices that predate the proliferation of video streaming services, YouTube, on-demand digital media, catch up technology, as well as new platforms on which content can be accessed such as tablets and smartphones, all of which substantially changed how television and film content is consumed. This range of delivery modes and viewing platforms means that film and television viewing practices are vastly different to those in 70's, 80's and 90's (the decades which most research is based on), particularly for young people. There is currently a lack of evidence as to whether these different viewing modes, access to a broader range of content sources, the advent of binge watching and so on influence imitation effects.

Implications of the findings for policy and practice

Since it seems likely that the Werther effect operates through the entertainment media in some circumstances, there is a need to exercise caution and ensure that films, television shows, music and plays with suicidal themes do no harm. Work on potential interventions to counteract the Werther effect in the entertainment media is not well advanced. Australia is one of the few countries to have taken a systematic approach to dealing with fictional depictions of suicide. **Everymind** – the organisation responsible for disseminating Australia's guidelines for reporting of suicide in the news media – has been funded, in partnership with the Australian Writers' Guild and SANE Australia, to assist scriptwriters and playwrights to portray suicide in a responsible and sensitive manner. The *Mindframe Stage and Screen* project has developed printed and web-based resources, and has run a number of workshops with scriptwriters from a range of genres, including popular television series. It has collaborated closely with people involved in the development of Australian film, television and theatre, mental health and suicide prevention experts and people directly affected by the issues, in order to ensure truthful, sensitive and respectful portrayals. Evaluations have revealed a shift in understanding of the issues and a reduction in stigma following workshops with scriptwriter. As yet, however, impacts and outcomes of this intervention have not been evaluated (Pirkis, 2009).



Limitations of the current review

As noted in Chapter 1, the current review was deliberately restricted to ‘media influence studies’ that are grounded in the ‘effects tradition’. It did not include ‘entertainment production studies’, ‘content analysis studies’ or ‘audience reception studies’. Consequently, the review is not in a position to comment on how film and television dramas, music and plays with suicide content are produced, the nature of such content, or how this content is perceived and received by the community in general and by people who might be vulnerable in particular.

These other types of studies are important for interpreting the findings from the ‘media influence studies’, and can assist in informing relevant media practice. For example, Jamieson (2003) conducted several ‘content analysis studies’ which inform the question of how the entertainment media frames suicide. Overall, however, the body of work in these other areas is not as substantial as that reviewed here.

Jamieson identified 1090 films depicting suicide released between 1950 and 2000, and noted that the absolute number (and adjusted rate) of films doing so increased over time. He found no significant increase in the number of top 30 films involving suicide, but did find a significant increase in multiple depictions of suicide in top 30 films. He also found that access to cable had increased access to fictional portrayals of suicide, demonstrating that on any given day it was possible to view programming that included such portrayals. He observed that the portrayal of suicide acts became lengthier over time (i.e., the number of seconds devoted to showing acts of suicide), and that suicide became more extensively modelled (as evidenced by increasing scores on a 5-point rating scale where 1 equated to ‘no visuals of act, shows body or method’ and 5 equated to ‘shows act until completion and in detail’). He found that the tenor of disapproval of the act of suicide, evident in earlier films, shifted to a non-judgmental or even approving stance in later films where there was a greater tendency to romanticise or glorify suicide. He found that the number of depictions of suicide by firearms increased in later films. He also found that young people were disproportionately represented in films depicting suicide, although the degree of over-representation did not increase over time. Honing in on the four film versions of *Romeo and Juliet* (released in 1936, 1954, 1969 and 1996, respectively), he found that, as a general rule, the age of the lead actors decreased over time, the length of the suicide act increased, suicide became more extensively modelled, and the dagger that kills Juliet became more explicit until eventually it was replaced by a firearm. He also observed that, contrary to the original intentions of Shakespeare’s play, the suicide pact is romanticised and a reunion in the afterlife is implied.

Further work is required to better align the media influence studies reviewed here with other emerging work on portrayal of suicide in entertainment media (Stack & Lester, 2009). Researchers from disciplines such as medicine, sociology and psychology should collaborate with researchers with backgrounds in film, television, music and theatre, in order to strengthen our understanding of the imperatives that operate on entertainment industry professionals when they are preparing creative pieces which have a suicide theme, the contested frames which shape these pieces, and the way in which these pieces are interpreted by different readers and viewers.



Conclusions

According to social learning theory, there is good reason to expect that entertainment media depictions of suicide could lead to imitation acts: such portrayals are widespread, often send a message reinforcing suicide as a course of action, often include graphic footage of the method of suicide, and often appeal to young audiences. Scientific studies that have explored the hypothesis that such a relationship exists have produced equivocal results, but over half of these studies have suggested that there is evidence of a harmful imitation effect. Not all studies have limited themselves to considering negative consequences; some have also explored whether fictional portrayals of suicide could have an educative or preventive effect, and again the findings are equivocal. Methodological differences may explain some of the contradictory findings, but the real explanation probably lies in the interaction between the characteristics of different screenings and the characteristics of different audiences and the social environment.

Further research in this area is warranted, particularly in the light of changes in television and movie viewing habits with the increasing accessibility and popularity of streaming platforms, such as Netflix, allowing audiences to watch multiple episodes or entire seasons of television shows (binge watching) and the potential for this to magnify media effects in relation to suicide has yet to be investigated in academic research. While there is clearly much to be learned about the evolving entertainment media environment, in the meantime, there is a need to err on the side of caution. Mental health professionals and suicide experts should collaborate with film makers, television producers, members of the music industry and playwrights to try to balance entertainment against the risk of harm, and to promote opportunities for education. Sensitive portrayal of suicide that does not glorify or romanticise it and does not provide detail of the exact method is likely to be preferable, as are depictions that stress consequences for others, potential hazards of particular methods, and sources of help for vulnerable viewers.



References

- ARNETT, J. (1991A). ADOLESCENTS AND HEAVY METAL MUSIC: FROM THE MOUTHS OF METALHEADS. *YOUTH AND SOCIETY*, 23(1), 76-98.
- ARNETT, J. (1991B). HEAVY METAL MUSIC AND RECKLESS BEHAVIOUR AMONG ADOLESCENTS. *JOURNAL OF YOUTH AND ADOLESCENCE*, 20(6), 573-592.
- AYERS, J. W., ALTHOUSE, B. M., LEAS, E. C., DREDZE, M., & ALLEM, J. P. (2017). INTERNET SEARCHES FOR SUICIDE FOLLOWING THE RELEASE OF 13 REASONS WHY JAMA INTERN MED, 177(10), 1527-1529. DOI: 10.1001/JAMAINTERNMED.2017.3333
- BALLARD, M., & COATES, S. (1995). THE IMMEDIATE EFFECTS OF HOMICIDAL, SUICIDAL AND NON-VIOLENT HEAVY METAL AND RAP SONGS ON THE MOODS OF COLLEGE STUDENTS. *YOUTH AND SOCIETY*, 27(2), 148-168.
- BERMAN, A. L. (1988). FICTIONAL DEPICTION OF SUICIDE IN TELEVISION FILMS AND IMITATION EFFECTS. *AMERICAN JOURNAL OF PSYCHIATRY*, 145(8), 982-986.
- BIBLARZ, A., BROWN, R., BIBLARZ, D., PILGRIM, M., & BALDREE, B. (1991). MEDIA INFLUENCE ON ATTITUDES TOWARD SUICIDE. *SUICIDE AND LIFE-THREATENING BEHAVIOR*, 21(4), 374-384.
- BURGE, M., GOLDBLAT, C., & LESTER, D. (2002). MUSIC PREFERENCE AND SUICIDALITY: A COMMENT ON STACK. *DEATH STUDIES*, 26, 501-504.
- COLLINS, S. (1993). HEALTH PREVENTION MESSAGES MAY HAVE PARADOXICAL EFFECT. *BRITISH MEDICAL JOURNAL*, 306(6882), 926.
- DALY, L., BOURKE, G., & MCGILVRAY, J. (1991). INTERPRETATION AND USES OF MEDICAL STATISTICS. LONDON: BLACKWELL SCIENTIFIC PUBLISHERS.
- DANIELS, R. (1986). EMOTIONAL CRISES IMITATING TELEVISION. *LANCET*, 1(8485), 856.
- DAVIES, S., ATHERTON, M., WILLIAMS, T., PURKIS, J., COMBE, G., BRINDLEY, A., ET AL. (1999). STUDY IS IMPRESSIVE BUT RAISES METHODOLOGICAL CONCERNS. *BRITISH MEDICAL JOURNAL*, 319(7217), 1131-1132.
- DEEKS, J., HAWTON, K., & SIMKIN, S. (1999). AUTHORS' REPLY. *BRITISH MEDICAL JOURNAL*, 319(7217), 1132.
- DORON, A., STEIN, D., LEVINE, Y., ABRAMOVITCH, Y., EILAT, E., & NEUMAN, M. (1998). PHYSIOLOGICAL REACTIONS TO A SUICIDE FILM: SUICIDE ATTEMPTERS, SUICIDE IDEATORS, AND NONSUICIDAL PATIENTS. *SUICIDE AND LIFE-THREATENING BEHAVIOR*, 28(3), 309-314.
- ELLIS, S., & WALSH, S. (1986). SOAP MAY SERIOUSLY DAMAGE YOUR HEALTH. *LANCET*, 1(8482), 686. FOWLER, B. P. (1986). EMOTIONAL CRISES IMITATING TELEVISION. *LANCET*, 1(8488), 1036-1037.
- GEETA, M., KRISHNA, P. (2005). TELEVISION AND SUICIDAL BEHAVIOUR. *INDIAN PEDIATRICS*, 42: 837.
- GOULD, M. (2001). SUICIDE AND THE MEDIA. *ANNALS OF THE NEW YORK ACADEMY OF SCIENCES*, 932, 200-224.
- GOULD, M., JAMIESON, P., & ROMER, D. (2003). MEDIA CONTAGION AND SUICIDE AMONG THE YOUNG. *AMERICAN BEHAVIORAL SCIENTIST*, 46(9), 1269-1284.
- GOULD, M., & SHAFFER, D. (1986). THE IMPACT OF SUICIDE IN TELEVISION MOVIES. EVIDENCE OF IMITATION. *NEW ENGLAND JOURNAL OF MEDICINE*, 315(11), 690-694.
- GOULD, M., SHAFFER, D., & KLEINMAN, M. (1988). THE IMPACT OF SUICIDE IN TELEVISION MOVIES: REPLICATION AND COMMENTARY. *SUICIDE AND LIFE-THREAT BEHAVIOR*, 18(1), 90-99.
- HAWTON, K., SIMKIN, S., DEEKS, J., O'CONNOR, S., KEEN, A., ALTMAN, D., ET AL. (1999). EFFECTS OF A DRUG OVERDOSE IN A TELEVISION DRAMA ON PRESENTATIONS TO HOSPITAL FOR SELF-POISONING: TIME SERIES AND QUESTIONNAIRE STUDY. *BRITISH MEDICAL JOURNAL*, 318(7189), 972-977.
- HILL, B. (1971). PRINCIPLES OF MEDICAL STATISTICS. LONDON: LANCET.
- HOLDING, T. A. (1974). THE BBC 'BEFRIENDERS' SERIES AND ITS EFFECTS. *BRITISH JOURNAL OF PSYCHIATRY*, 124, 470-472.
- HOLDING, T. A. (1975). SUICIDE AND 'THE BEFRIENDERS'. *BRITISH MEDICAL JOURNAL*, 3, 751-752.
- JACKSON, E., & POTKAY, C. (1974). AUDIENCE REACTIONS TO THE SUICIDE PLAY QUIET CRIES. *JOURNAL OF COMMUNITY PSYCHOLOGY*, 2(1), 16-17.



- JAMIESON, P. (2003). CHANGES IN UNITED STATES POPULAR CULTURE PORTRAYAL OF YOUTH SUICIDE: 1950-2000. UNPUBLISHED 3087415, UNIVERSITY OF PENNSYLVANIA, PENNSYLVANIA, PA.
- KESSLER, R. C., & STIPP, H. (1984). THE IMPACT OF FICTIONAL TELEVISION SUICIDE STORIES ON U.S. FATALITIES: A REPLICATION. *AMERICAN JOURNAL OF SOCIOLOGY*, 90(1), 151-167.
- LACOURSE, E., CLAES, M., & VILLENEUVE, M. (2001). HEAVY METAL MUSIC AND ADOLESCENT SUICIDE RISK. *JOURNAL OF YOUTH AND ADOLESCENCE*, 30(3), 321-322.
- LESTER, D., & WHIPPLE, M. (1996). MUSIC PREFERENCE, DEPRESSION, SUICIDAL PREOCCUPATION, AND PERSONALITY: COMMENT ON STACK AND GUNDLACH'S PAPERS. *SUICIDE AND LIFE THREATENING BEHAVIOR*, 26, 68-70.
- LITMAN, R., & FARBEROW, N. (1994). POP-ROCK MUSIC AS PRECIPITATING CAUSE IN YOUTH SUICIDE. *JOURNAL OF FORENSIC SCIENCES*, 39(2), 494-499.
- MAGUIRE, E., & SNIPES, J. (1994). REASSESSING THE LINK BETWEEN COUNTRY MUSIC AND SUICIDE. *SOCIAL FORCES*, 72(4), 1239-1243.
- MARTIN, G., CLARKE, M., & PEARCE, C. (1993). ADOLESCENT SUICIDE: MUSIC PREFERENCE AS AN INDICATOR OF VULNERABILITY. *JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY*, 32(3), 530-535.
- MAUK, G., TAYLOR, M., WHITE, K., & ALLEN, T. S. (1994). COMMENT ON STACK AND GUNDLACH'S 'THE EFFECT OF COUNTRY MUSIC ON SUICIDE': AN ACHY BREAKY HEART MAY NOT KILL YOU. *SOCIAL FORCES*, 72(4), 1249-1255.
- MINOIS, G. (1999). HISTORY OF SUICIDE: VOLUNTARY DEATH IN WESTERN CULTURE. BALTIMORE, MD: JOHNS HOPKINS UNIVERSITY PRESS.
- MURRAY, J. (1988). THE IMPACT OF TELEVISED MOVIES ABOUT SUICIDE. *NEW ENGLAND JOURNAL OF MEDICINE*, 318(11), 707.
- NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL. (1999). HOW TO REVIEW THE EVIDENCE: SYSTEMATIC IDENTIFICATION AND REVIEW OF THE SCIENTIFIC LITERATURE. CANBERRA: BIOTEXT.
- O'CONNOR, S., DEEKS, J., HAWTON, K., SIMKIN, S., KEEN, A., ALTMAN, D., ET AL. (1999). EFFECTS OF A DRUG OVERDOSE IN A TELEVISION DRAMA ON KNOWLEDGE OF SPECIFIC DANGERS OF SELF-POISONING: POPULATION-BASED SURVEYS. *BRITISH MEDICAL JOURNAL*, 318(7189), 978-979.
- OSTROFF, R., BEHREND, R., LEE, K., & OLIPHANT, J. (1985). ADOLESCENT SUICIDES MODELED AFTER TELEVISION MOVIE. *AMERICAN JOURNAL OF PSYCHIATRY*, 142(8), 989.
- OSTROFF, R., & BOYD, J. (1987). TELEVISION AND SUICIDE: COMMENT. *NEW ENGLAND JOURNAL OF MEDICINE*, 316(14), 876-877.
- PELL, J., & MURDOCH, R. (1999). A CAUSAL ASSOCIATION CANNOT YET BE INFERRED. *BRITISH MEDICAL JOURNAL*, 319(7217), 1131.
- PETERSON, R., SAFER, M., & JOBES, D. (2008). THE IMPACT OF SUICIDAL ROCK MUSIC LYRICS ON YOUTH: AN INVESTIGATION OF INDIVIDUAL DIFFERENCES. *ARCHIVES OF SUICIDE RESEARCH*, 12, 161-169.
- PHILLIPS, D. (1974). THE INFLUENCE OF SUGGESTION ON SUICIDE: SUBSTANTIVE AND THEORETICAL IMPLICATIONS OF THE WERTHER EFFECT. *AMERICAN SOCIOLOGICAL REVIEW*, 39(3), 340-354.
- PHILLIPS, D. (1982). THE IMPACT OF FICTIONAL TELEVISION STORIES ON U.S. ADULT FATALITIES: NEW EVIDENCE ON THE EFFECT OF THE MASS MEDIA ON VIOLENCE. *AMERICAN JOURNAL OF SOCIOLOGY*, 87(6), 1340-1359.
- PHILLIPS, D., & PAIGHT, D. (1987). THE IMPACT OF TELEVISED MOVIES ABOUT SUICIDE. A REPLICATIVE STUDY. *NEW ENGLAND JOURNAL OF MEDICINE*, 317(13), 809-811.
- PIRKIS, J. (2009). SUICIDE AND THE MEDIA. *PSYCHIATRY*, 8(7), 269-271.
- PIRKIS, J., & BLOOD, R. (2001A). SUICIDE AND THE MEDIA. PART II: PORTRAYAL IN FICTIONAL MEDIA. *CRISIS*, 22(4).
- PIRKIS, J., & BLOOD, R. (2001B). SUICIDE AND THE MEDIA: A CRITICAL REVIEW. CANBERRA: COMMONWEALTH OF AUSTRALIA.
- PIRKIS, J., & BLOOD, R. (2010). SUICIDE AND THE ENTERTAINMENT MEDIA: A CRITICAL REVIEW. CANBERRA.
- PIRKIS, J., BLOOD, R., FRANCIS, C., & MCCALLUM, K. (2005). A REVIEW OF THE LITERATURE REGARDING FILM AND TELEVISION DRAMA PORTRAYALS OF SUICIDE. MELBOURNE: PROGRAM EVALUATION UNIT, MELBOURNE SCHOOL OF POPULATION HEALTH, UNIVERSITY OF MELBOURNE.



- PIRKIS, J., BLOOD, R. W., SUTHERLAND, G., & CURRIER, D. (2018). SUICIDE AND THE NEWS AND INFORMATION MEDIA: A CRITICAL REVIEW. CANBERRA.
- PLATT, S. (1987). THE AFTERMATH OF ANGIE'S OVERDOSE: IS SOAP (OPERA) DAMAGING TO YOUR HEALTH? BRITISH MEDICAL JOURNAL (CLINICAL RESEARCH EDITION), 294(6577), 954-957.
- POULIOT, L., MISHARA, B. L., & LABELLE, R. (2011). THE WERTHER EFFECT RECONSIDERED IN LIGHT OF PSYCHOLOGICAL VULNERABILITIES: RESULTS OF A PILOT STUDY J AFFECT DISORD, 134(1-3), 488-496. DOI: 10.1016/J.JAD.2011.04.050
- RANGE, L., GOGGIN, W., & STEEDE, K. (1988). PERCEPTION OF BEHAVIORAL CONTAGION OF ADOLESCENT SUICIDE. SUICIDE AND LIFE-THREATENING BEHAVIOR, 18(4), 334-341.
- RUSTAD, R. A., SMALL, J. E., JOBES, D. A., SAFER, M. A., & PETERSON, R. J. (2003). THE IMPACT OF ROCK VIDEOS AND MUSIC WITH SUICIDAL CONTENT ON THOUGHTS AND ATTITUDES ABOUT SUICIDE. SUICIDE AND LIFE-THREATENING BEHAVIOR, 33(2), 120-131.
- SAINT-MARTIN, P., PRAT, S., BUYSSY, M., & O'BYRNE, P. (2009). PLASTIC BAG ASPHYXIA: A CASE REPORT. JOURNAL OF FORENSIC AND LEGAL MEDICINE, 16, 40-43.
- SALO, D., KAIRAM, N., SHERROW, L., FLESSELER, F., PATEL, D., & WALL, A. (2017). "13 REASONS WHY" PEDIATRIC PSYCHIATRIC PRESENTATIONS TO AN EMERGENCY DEPARTMENT IN RELATION TO RELEASE DATE. ANNALS OF EMERGENCY MEDICINE, 70(4s), s90
- SANDLER, D., CONNELL, P., & WALSH, K. (1986). EMOTIONAL CRISES IMITATING TELEVISION. LANCET, 1(8485), 856.
- SCHEEL, K., & WESTEFELD, J. (1999). HEAVY METAL MUSIC AND ADOLESCENT SUICIDALITY: AN EMPIRICAL INVESTIGATION. ADOLESCENCE, 34(134), 253-273.
- SCHMIDTKE, A., & HAFNER, H. (1988). THE WERTHER EFFECT AFTER TELEVISION FILMS: NEW EVIDENCE FOR AN OLD HYPOTHESIS. PSYCHOLOGICAL MEDICINE, 18(3), 665-676.
- SIMKIN, S., HAWTON, K., WHITEHEAD, L., FAGG, J., & EAGLE, M. (1995). MEDIA INFLUENCE ON PARASUICIDE: A STUDY OF THE EFFECTS OF A TELEVISION DRAMA PORTRAYAL OF PARACETAMOL SELF-POISONING. BRITISH JOURNAL OF PSYCHIATRY, 167(6), 754-759.
- STACK, S. (1998). HEAVY METAL, RELIGIOSITY, AND SUICIDE ACCEPTABILITY. SUICIDE AND LIFE-THREATENING BEHAVIOR, 28(4), 388-394.
- STACK, S. (2000). BLUES FANS AND SUICIDE ACCEPTABILITY. DEATH STUDIES, 24, 223-231. STACK, S. (2002). OPERA SUBCULTURE AND SUICIDE FOR HONOUR. DEATH STUDIES, 26(5), 431-437.
- STACK, S., & GUNDLACH, J. (1992). THE EFFECT OF COUNTRY AND WESTERN MUSIC ON SUICIDE. SOCIAL FORCES, 71(1), 211-218.
- STACK, S., & GUNDLACH, J. (1994). REPLY. SOCIAL FORCES, 72(4), 1239-1243.
- STACK, S., & GUNDLACH, J. (1995). COUNTRY MUSIC AND SUICIDE: INDIVIDUAL, INDIRECT AND INTERACTION EFFECTS: A REPLY TO SNIPES AND MAGUIRE. SOCIAL FORCES, 74(1), 331-335.
- STACK, S., GUNDLACH, J., & REEVES, J. (1994). THE HEAVY METAL SUBCULTURE AND SUICIDE. SUICIDE AND LIFE-THREATENING BEHAVIOR, 24(1), 15-23.
- STACK, S., KRYSINSKA, K., & LESTER, D. (2008). GLOOMY SUNDAY: DID THE 'HUNGARIAN SUICIDE SONG' REALLY CREATE A SUICIDE EPIDEMIC. OMEGA: THE JOURNAL OF DEATH AND DYING, 56(4), 349-358.
- STACK, S., & LESTER, D. (2009). SUICIDE AND THE CREATIVE ARTS. HAUPPAUGE, NY: NOVA PUBLISHERS.
- STACK, S., KRAL, M., & BOROWSKI, T. (2014). EXPOSURE TO SUICIDE MOVIES AND SUICIDE ATTEMPTS: A RESEARCH NOTE. SOCIOLOGICAL FOCUS, 47(1), 61-70
- STEEDE, K., & RANGE, L. (1989). DOES TELEVISION INDUCE SUICIDAL CONTAGION WITH ADOLESCENTS? JOURNAL OF COMMUNITY PSYCHOLOGY, 17(2), 166-172.
- STINSON, J., O'CONNELL, T., CHAN, R., & FEELY, J. (1993). MEDICAL MESSAGES ON TELEVISION: GRAPEVINE EFFECT. BRITISH MEDICAL JOURNAL, 306(6882), 926
- TANNER, M. (1988). THE IMPACT OF TELEVISED MOVIES ABOUT SUICIDE. NEW ENGLAND JOURNAL OF MEDICINE, 318(11), 707-708.
- THORSON, J., & OBERG, P.-A. (2003). WAS THERE A SUICIDE EPIDEMIC AFTER GOETHE'S WERTHER? ARCHIVES OF SUICIDE RESEARCH, 7(1), 69-72.



- TILL, B., NIEDERKROTENTHALER, T., HERBERTH, A., VITOUCH, P., & SONNECK, G. (2010). SUICIDE IN FILMS: THE IMPACT OF SUICIDE PORTRAYALS ON NONSUICIDAL VIEWERS' WELL-BEING AND THE EFFECTIVENESS OF CENSORSHIP. *SUICIDE LIFE THREAT BEHAV*, 40(4), 319-327. DOI: 10.1521/SULI.2010.40.4.319
- TILL, B., TRAN, U. S., VORACEK, M., SONNECK, G., & NIEDERKROTENTHALER, T. (2014). ASSOCIATIONS BETWEEN FILM PREFERENCES AND RISK FACTORS FOR SUICIDE: AN ONLINE SURVEY. *PLoS ONE*, 9(7), E102293. DOI: 10.1371/JOURNAL.PONE.0102293
- TILL, B., STRAUSS, M., SONNECK, G., & NIEDERKROTENTHALER, T. (2015). DETERMINING THE EFFECTS OF FILMS WITH SUICIDAL CONTENT: A LABORATORY EXPERIMENT. *BR J PSYCHIATRY*, 207(1), 72-78. DOI: 10.1192/BJP.BP.114.152827
- VESEY, M., KAMANYIRE, R., & VOLANS, G. (1999). EFFECTS OF DRUG OVERDOSE IN TELEVISION DRAMA ON PRESENTATIONS FOR SELF-POISONING: ANTIFREEZE POISONINGS GIVE MORE INSIGHT INTO COPYCAT BEHAVIOUR. *BRITISH MEDICAL JOURNAL*, 319(7217), 1131.
- WALDRON, G., WALTON, J., & HELOWICZ, R. (1993). MEDICAL MESSAGES ON TELEVISION. COPYCAT OVERDOSES COINCIDENTAL. *BRITISH MEDICAL JOURNAL*, 306(6889), 1416.
- WILLIAMS, J. M., LAWTON, C., ELLIS, S. J., WALSH, S., & REED, J. (1987). COPYCAT SUICIDE ATTEMPTS. *LANCET*, 2(8550), 102-103.
- ZAHL, D., & HAWTON, K. (2004). MEDIA INFLUENCES ON SUICIDAL BEHAVIOUR: AN INTERVIEW STUDY OF YOUNG PEOPLE. *BEHAVIOURAL AND COGNITIVE PSYCHOTHERAPY*, 32(2), 189-198.



Appendix 1: Summary of film and television studies

Investigators	Ayres JW, Althouse BM, Leas EC, Dredze M, Allem JP. (2017)
Study type	Analytical study: Ecological
Country	USA
Dependent variable	Suicide-related search volumes
Method	Examined internet searches for suicide related-terms after the premiere of 13 Reasons Why (March 31 2017 to April 18 2017), and compared them with the expected search volumes if the program had not been released.
Key findings	Suicide queries were significantly greater than expected on 12 of the 19 days included, ranging from 15% to 44% higher (95% CI's 3-32% and 28-65% respectively). Queries on methods and instructions for suicide were higher but so were queries for hotline information and public awareness searches such as 'suicide prevention'.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Berman (1988)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Replication of Gould and Shaffer (1986a, see below). Examined the effects of broadcasts three and four, as well as an additional film – <i>A Desperate Exit</i> – which dealt with the impact of an adolescent male's suicide and was screened in 1986. Excluded broadcasts one and two on the grounds that there was overlap between the two-week periods before broadcast two and after broadcast one. Considered the total number of suicides, the number of adolescent suicides, and adolescent suicides as a proportion of total suicides.
Key findings	No overall increase in total national suicides by young people after screening of films. However, after the only film to depict a suicide method (broadcast four, <i>Surviving</i>), there was a significant increase in youth suicides by the same method.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Biblarz, Brown and Biblarz et al (1991)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Attitudes to suicide
Method	Presented 119 non-suicidal university students with one of three films: (a) suicidal content; (b) violent content; (c) neutral content. Assessed attitudes towards suicide and arousal levels before and after viewing.
Key findings	Participants no more likely to have positive attitudes towards suicide as a result of watching the suicide film, but their arousal levels were temporarily increased after doing so.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Collins (1993)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of an episode of <i>Casualty</i> , in which a 15-year-old girl died by suicide, screened on 9 January 1993. Considered the number of teenage girls presenting to Alexandra Hospital in Redditch in the 10 weeks before the episode was screened and the eight weeks afterwards. Interviewed four of 11 girls presenting in the fortnight after the episode.
Key findings	Increase in presentations in the weeks immediately following the episode. All four girls who were interviewed admitted to having seen the episode.
Interpretation	Some evidence to suggest negative influence of media



Investigators	Doron, Stein and Levine et al (1998)
Study type	Analytical study: Individual-level
Country	Israel
Dependent variable	Anxiety related to suicide
Method	Examined the influence of <i>Surviving</i> on three groups of patients in a psychiatric inpatient unit: 17 who had attempted suicide; 20 who had experienced suicidal ideation; and 10 who were not suicidal. Considered levels of anxiety (as assessed by a standardised anxiety scale and various psychophysiological measures) before and after the screening.
Key findings	Found: (a) the heart and respiration rates of the people who have made an attempt on their life changed significantly less during the course of the film than the other two groups'; and (b) the people who have made an attempt on their life experienced an increase in psychomotor agitation until the discovery of the suicide whereas non-suicidal patients
Interpretation	Some evidence to suggest negative influence of media

Investigators	Ellis and Walsh (1986)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of an episode of <i>EastEnders</i> in which the character called Angie (aged approximately 30–40) attempted suicide by overdose, which screened on 2 March 1986. Considered the number of patients attending accident and emergency department at Hackney Hospital for overdose in the week after the episode, the 10 weeks before, and the same week in the previous 10 years.
Key findings	Increase in number of overdose presentations in week after episode compared with mean number in previous 10 weeks and mean number in the same week in the previous 10 years.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Fowler (1986)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of the same episode of <i>EastEnders</i> as Ellis and Walsh (1986, see above). Considered the number of patients attending three hospitals in Newcastle upon Tyne for overdoses in the week of the episode, the eight weeks before and the five weeks after the program.
Key findings	Increase in number of overdose presentations in the week of the episode compared with mean number in previous eight weeks. This increase dropped off during the subsequent five weeks.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Geeta and Krishnakumar (2005)
Study type	Descriptive study
Country	India
Dependent variable	Attempted suicide
Method	Case report
Key findings	9-year-old boy who attempted suicide was subsequently interviewed and said he had not witnessed any similar suicide attempt among his family, friends or neighbours, but had seen a television serial in which a person tried the same method after a quarrel.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Gould and Shaffer (1986a)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Attempted suicide and completed suicide



Method	Examined the effect of four television movies screened in 1984–85: <ul style="list-style-type: none"> - Broadcast one concerned a suicide pact between two high schools students, one of whom eventually completed suicide; - Broadcast two concerned a high school student with multiple problems who completed suicide, and it described the reactions of those around him; - Broadcast three concerned a teenager’s attempts to prevent his father completing suicide; and - Broadcast four concerned the joint suicides of an adolescent boy and girl. Considered numbers of completed and attempted suicides by young people in the New York area in the two weeks before and after each broadcast. Broadcast two was included in the attempts analysis but excluded from the completed suicide analysis because it was accompanied by educational and preventive material.
Key findings	Significant increase in mean number of suicides and suicide attempts by young people in the two weeks before the broadcasts compared with the two weeks after the broadcasts.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Gould, Shaffer and Kleinman (1988)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Attempted suicide and completed suicide
Method	Replication of Gould and Shaffer (1986a, see above). Examined the effects of broadcasts one, three and four in different geographical areas (Cleveland, Dallas and Los Angeles). Considered the numbers of completed and attempted suicides by young people in these areas in the two weeks before and after each broadcast.
Key findings	No significant increase in mean number of suicides by young people after screening of films in Dallas or Los Angeles. Significant increase in mean number of suicides by young people in Cleveland in two weeks after screening of films, compared with two weeks before screening of films.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Hawton, Simkin and Deeks et al (1999); O’Connor, Deeks and Hawton et al (1999)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide and completed suicide
Method	Hawton, Simkin and Deeks et al (1999) examined the effects of an episode of <i>Casualty</i> (screened on 2 November 1996) in which an RAF pilot with multiple problems attempted suicide. Considered all cases of self-poisoning presenting to accident and emergency services or psychiatric services in 49 UK hospitals in the three weeks prior to the screening of the episode (baseline period) and the three weeks subsequent to it (experimental period). Administered questionnaire that determined whether patients were <i>Casualty</i> viewers. <i>Casualty</i> viewers who presented during the experimental period were asked whether viewing the episode in question had influenced their knowledge and behaviour. Also considered completed suicides (including deaths due to undetermined cause and accidental deaths involving self-poisoning with the same substance) that occurred in England and Wales during 1996. In an extension of this study, O’Connor, Deeks and Hawton et al (1999) sent questionnaires to a sample of the adult UK population one week after the broadcast and again 32 weeks later to test their knowledge of the effects of paracetamol.
Key findings	Significant increase in presentations in the weeks immediately following the episode. Of those who presented in the three weeks after the episode, 20 per cent had seen the broadcast and 4 per cent said it had influenced their behaviour. For some, the effect was positive (for example, some patients avoided using that particular medication because the episode highlighted the risk of liver damage). No increase in completed suicides after the broadcast. Episode of <i>Casualty</i> increased the general public’s knowledge of the effects of certain medications.
Interpretation	Some evidence to suggest negative influence of media



Investigators	Holdings (1974, 1975)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide, completed suicide and referrals to suicide prevention service
Method	Examined the effects of <i>The Befrienders</i> , an 11-episode weekly series based on the Samaritans and shown on the BBC in Edinburgh in 1972. Considered (a) number of suicides in Edinburgh, (b) number of parasuicide presentations to the Regional Poisoning Treatment Centre at Edinburgh's Royal Infirmary, and (c) number of referrals to the Samaritans during the three 10-week periods prior to, during and after the screening of the series. Adjusted for seasonal effects and trends by making comparisons with corresponding periods in three previous years and the subsequent year.
Key findings	No increase in number of suicides or parasuicides, after screening, but significant increase in number of referrals to the Samaritans.
Interpretation	No evidence to suggest negative influence of media

Investigators	Kessler and Stipp (1984)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Replication of Phillips (1982). Observed that Phillips had misclassified the date of more than half of the screenings and had failed to include a number of soap operastories. Corrected these errors and re-analysed data.
Key findings	No increase in number of suicides immediately following soap opera stories.
Interpretation	No evidence to suggest negative influence of media

Investigators	Ostroff, Behrends and Lee et al (1985); Ostroff and Boyd (1987)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Attempted suicide
Method	Examined the effect of <i>Surviving</i> , a television movie concerning the effect of suicides of an adolescent couple on their parents, which screened on 10 February 1985. Considered the number of overdose presentations to psychiatric and paediatric services at Waterbury Hospital Health Center before and after the broadcast. Asked those who attempted suicide before the broadcast whether they had seen the program.
Key findings	Increase in overdose presentations in two weeks after broadcast. Overall, number of suicides in month of broadcast was higher than in other months during 1985 and then in February 1984. All those asked confirmed that they had seen the program.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Pell and Murdoch (1999)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of same episode of <i>Casualty</i> as Hawton, Simkin and Deeks et al (1999, see above) and O'Connor, Deeks and Hawton et al (1999, see above). Considered trends in admissions and deaths attributed to all self-poisoning and paracetamol overdoses in Scotland (1995–97).
Key findings	Number of admissions for all self-poisonings decreased in November 1996. Number of admissions for poisonings by a particular medication rose slightly, as did the number of deaths from self-poisoning, but both could be explained by chance variation. Deaths attributed to all self-poisonings and poisonings by a particular medication varied widely by month.
Interpretation	No evidence to suggest negative influence of media



Investigators	Phillips (1982)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Determined national number of suicides and motor vehicle deaths in 1997. Identified weeks in which any soap opera was screened in which there was a suicide theme, using summaries listed in a newspaper column called 'The Soaps'. After controlling for a range of factors, examined trends in suicide rates in the latter half of any week in which a relevant soap opera episode was screened.
Key findings	Significant increase in number of suicides immediately following soap opera stories.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Phillips and Paight (1987)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Replication of Gould and Shaffer (1986a, see above). Examined the effects of broadcasts one, three and four in different geographical areas (Pennsylvania and California). Considered the number of completed suicides by young people in these areas during the two weeks before and after each broadcast.
Key findings	No significant increase in mean number of suicides by young people after screening of films.
Interpretation	No evidence to suggest negative influence of media

Investigators	Platt (1987)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of the same episode of <i>EastEnders</i> as Ellis and Walsh (1986, see above). Considered the number of patients attending accident and emergency departments in 63 UK hospitals for deliberate overdoses in the weeks before and after the screening of the episode, and in the corresponding periods in the previous year.
Key findings	No overall significant increase in number of deliberate overdose presentations after screening of episode, but a significant increase in such presentations by women (though not particularly for women in Angie's age group).
Interpretation	Some evidence to suggest negative influence of media

Investigators	Pouliot L, Mishara BL, Real I (2011)
Study type	Descriptive study
Country	Canada
Dependent variable	Suicidal tendencies
Method	Surveyed 101 undergraduates regarding exposure to suicide scene in film or music video and their response to it.
Key findings	Among those who had been exposed to a 'suicide scene', 13% said they were afraid they would engage in the same behaviour, and that they thought of imitating the protagonist.
Interpretation	Some evidence to suggest negative influence of media.

Investigators	Range, Goggin and Steede (1988)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Presented 142 college students with a videotaped vignette of a distressed female high school student. Varied circumstances: (a) contagion group (told girl knew of two suicides in the community); (b) non-contagion group (not told of any extenuating circumstances). Asked to rate likelihood of various behaviours, either as actors (instructed to imagine that they were the girl) or as observers (instructed to rate the girl on the tape).
Key findings	Those in the contagion group were more inclined to rate the girl more likely to die by suicide or run away than those in the non-contagion group. Actors were more likely to blame situational factors (especially the girl's parents) than observers. Contagion/actors were more likely to rate suicide as the outcome than any other group.
Interpretation	Some evidence to suggest negative influence of media



Investigators	Saint-Martin, Prat, Bouyssy and O'Byrne (2009)
Study type	Descriptive study
Country	France
Dependent variable	Completed suicide
Method	Case report
Key findings	32-year-old man who was found dead from asphyxia in the cab of his truck. A DVD of <i>The Life of David Gale</i> was found in the glove box. This fictional film depicts a suicide by asphyxia, and contains a long sequence in which the details of the method are clearly described.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Salo D, Kairam N, Sherrow L, Fiessler F, Patel D, Wali A. (2017)
Study type	Analytical study: Individual
Country	USA
Dependent variable	Suicide ideation, suicide attempt
Method	Compared the number of 11 to 18 year-olds presenting for mood disorders, suicide ideation, suicide attempt or depression at an Emergency Department for a 41 day period before/after the screening of 13 Reasons Why (Feb 18 2017 - May 11 2017). Looked at google search volumes for '13 Reasons Why' and 'how to commit suicide' same period.
Key findings	Overall, there was a significant increase in number of patients seen after the screening, but no significant change in number of presentation before/after with regards to suicide ideation or suicide attempt or the two SA combined. Regarding the google searches, there was an initial peak in searches about the show did not overlap with peak in ED presentations, while second smaller peak occurred within the peak ED presentation period. There were no findings for 'how to commit suicide' searches.
Interpretation	No evidence to suggest a negative influence of media

Investigators	Sandler, Connell and Welsh (1986)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of the same episode of <i>EastEnders</i> as Ellis and Walsh (1986, see above). Considered the number of patients attending the accident & emergency department at Queens Medical Centre in Nottingham for self-poisoning in the week after the episode, the 10 weeks before, and the same week in the previous 10 years.
Key findings	Increase in number of overdose presentations in week after episode compared with mean number in previous 10 weeks and mean number in the same week in the previous six years.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Schmidtke and Hafner (1988)
Study type	Analytical study: Ecological
Country	Germany
Dependent variable	Completed suicide
Method	Used an ABABA design to examine the effects of a six-episode series depicting the suicide of a 19-year-old male student, broadcast once in 1981 and again in 1982. Considered actual suicides by the same method in Germany between 1976 and 1984.
Key findings	After each series, there was a significant increase in suicides involving the same method as that used by the student. Effect lasted for at least 70 days, and was most marked among 15–19-year-old males.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Simkin, Hawton and Whitehead et al (1995)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide



Method	Examined the effects of the same episode of <i>Casualty</i> as Collins (1993, see above) when it was repeated on 16 July 1993. Considered all cases of deliberate self-poisoning or self-injury presenting to the general hospital in Oxford in the three weeks prior to the screening and the three weeks subsequent to it. Used a log-linear model that controlled for sex, age group, time, season, year and drug. Administered questionnaire to those who presented after the episode asking if they had seen the program and, if so, whether they were influenced by it.
Key findings	Raw numbers suggested increase in presentations in the three weeks immediately following the episode, but this effect was not statistically significant. Very few of those who responded to the questionnaire had seen the program, and still fewer had been influenced by it.
Interpretation	No evidence to suggest negative influence of media

Investigators	Stack S, Kral M, Borowski T (2014)
Study type	Analytical: Individual
Country	USA
Dependent variable	Suicide attempt
Method	Surveyed 260 university undergraduates on exposure to 11 suicide movies and past suicidal behaviour. Logistic regression, controlling for religiosity, depression, burdensomeness and demographics.
Key findings	Each additional movie exposure the risk of attempted suicide increased by 47.6%
Interpretation	Some evidence of a negative influence of media

Investigators	Steede and Range (1989)
Study type	Analytical: Individual-level
Country	United States
Dependent variable	Suicidal ideation
Method	Presented 116 high school students with a videotaped vignette of a distressed high school student and asked them to put themselves in her position. Varied circumstances: (a) girl had friends who had recently died by suicide; (b) girl had friends who had recently died in a plane crash; (c) no details of extenuating circumstances. Asked to rate likelihood of various behaviours and complete Reasons for Living Inventory (RFL).
Key findings	Only significant difference was that the suicide group scored higher on the fear of social disapproval scale of the RFL.
Interpretation	No evidence to suggest negative influence of media

Investigators	Till B, Niederkroenthaler T, Herberth A, Vitouch P, Sonneck G.(2010)
Study type	Analytical study: Individual
Country	Austria
Dependent variable	Suicidality
Method	154 non-depressed, non-suicidal Austrians divided into 5 participant groups 1) suicide movie, 1) suicide movie but less emotional than group 1 movie; 3 and 4 viewed the same movies as 1 and 2 respectively but censored to remove the suicidal act, and 5) non-suicide death film. Surveyed before and after on mood, activation, inner tension, self-esteem, life satisfaction, depression, suicidality, attitudes toward suicide. Suicidality measured by 52 item Suicide Risk Questionnaire.
Key findings	No increase in suicidality for any group after viewing their movies. There was a significant decrease in suicidality for group 2 after viewing the movie. There was no effect in any group on attitudes toward suicide.
Interpretation	No evidence to suggest negative influence of media

Investigators	Till B, Strauss M, Sonneck G, Niederkroenthaler T. (2015)
Study type	Analytical study: Individual
Country	Austria
Dependent variable	Suicide ideation (see note about measurement)



Method	95 non-depressed, non-suicidal Austrians were divided into 3 groups - 1) viewed movie in which protagonist dies by suicide, 2) viewed a movie where protagonist dies of natural causes, and; 3) viewed a movie where protagonist overcomes his suicidal feelings. Compared mood, depression, life satisfaction, self-worth, assumed benevolence of the world and suicidality administered within groups and by above/below mean suicidal tendency score within groups, and between groups before and after viewing. Also rated identification with protagonist questionnaire after viewing. Note: assess suicidal ideation based on Reasons for Living Scale, which is not designed to measure ideation.
Key findings	There was no significant effect for suicidal ideation within groups before and after watching their movie, or between groups. Within groups - those who watched suicide film with higher baseline suicidality had a significant increase in suicidality, also deterioration of mood as a whole but particularly in the baseline high suicidality group. In suicide film group those who identified with protagonist had higher baseline suicidality and also higher post-viewing suicidality compared to those who did not identify. No identification effects in other films.
Interpretation	Some evidence of a negative influence of media

Investigators	Till B, Tran US, Voracek M, Sonneck G, Niederkrotenthaler T. (2014)
Study type	Analytic: Individual
Country	Austria
Dependent variable	Suicide ideation
Method	943 Austrians surveyed regarding 50 movies (25 of which had suicide content), suicidal ideation, depression, psychoticism, hopelessness and life satisfaction measured. Logistic regression controlling for age, sex and education to examine if genres of movies associated with suicidal ideation and other outcomes.
Key findings	Exposure to movies with suicide content was not associated with suicidal ideation or any other suicide risk factor.
Interpretation	No evidence of a negative influence of the media.

Investigators	Veysey, Kamanyire and Volans (1999)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of an episode of <i>Casualty</i> (screened on 15 February 1997) which depicted an incident of self-poisoning. Considered suicide attempts reported to the National Poisons Information Service in London in the month of the episode and in each month of the prior year.
Key findings	Significant increase in cases of self-harm by ingestion of a particular substance in the month in which the episode was shown.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Waldron, Walton and Helowicz (1993)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Examined the effects of the same episode of <i>Casualty</i> as Collins (1993, see above). Considered the number of women (all ages) presenting to South West Thames Region in the 10 weeks before the screening of the episode and the eight weeks subsequent to it. Also examined the same periods for 1990–91 and 1991–92
Key findings	Significant increase in presentations in the weeks immediately following the episode. However, there were also significant increases at other times, which could not be attributed to <i>Casualty</i> .
Interpretation	Some evidence to suggest negative influence of media

Investigators	Williams, Lawton and Ellis et al (1987)
Study type	Analytical study: Ecological
Country	United Kingdom
Dependent variable	Attempted suicide



Method	Examined the effects of the same episode of EastEnders as Ellis and Walsh (1986, see above). Considered the number of patients attending Hackney and St Bartholomew's hospitals in London for deliberate self-poisoning in the two weeks before and after the screening of the episode, and in the corresponding periods in two control years. Examined the file notes of cases who had overdosed during the experimental period and controls who had overdosed in a period not less than a month after the episode.
Key findings	Increase in number of deliberate self-poisoning presentations after screening of episode, but at both hospitals the increase began before the episode. Controls more likely to have made previous attempts, but cases more likely to have used the same substance as Angie did.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Zahl and Hawton (2004)
Study type	Descriptive study
Country	United Kingdom
Dependent variable	Attempted suicide
Method	Interviewed 12 young people (aged 17-25) who had recently engaged in an episode of self-harm about the influence of media stories (both fictional depictions in the entertainment media and reports of real cases in the news media) on their actions.
Key findings	Seven recalled seeing a television soap opera depicting suicide, and three reported that this had influenced their own actions. Five recalled seeing a film with suicidal content, and four said that this had been a factor in their own suicide attempt.
Interpretation	Some evidence to suggest negative influence of media



Appendix 2: Summary of studies of music

Investigators	Arnett (1991a)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Conducted in-depth interviews with 35 adolescent heavy metal fans and a comparison group who did not like heavy metal music.
Key findings	None of the heavy metal fans reported that heavy metal music depressed them, and many reported that it calmed them if they were angry.
Interpretation	No evidence to suggest negative influence of media

Investigators	Arnett (1991b)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Administered self-report questionnaire to high school students in Atlanta, Georgia, who (a) liked heavy metal music (54 males, 135 females); or (b) disliked heavy metal music (56 males, 105 females).
Key findings	Those who liked heavy metal music were more likely to report reckless behaviours, have less satisfactory relationships, and have low self-esteem.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Ballard and Coates (1995)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Selected six unfamiliar songs with coherent lyrics, three of which were rap songs and three of which were heavy metal songs. Within each group of songs, one had suicidal content, one had homicidal content, and one had non-violent content. 175 students were randomised to one of six genre-content conditions, listened to the relevant song, and then completed a range of anxiety, depression and suicidality measures.
Key findings	No relationship found between suicidal song content and levels of suicidality
Interpretation	No evidence to suggest negative influence of media

Investigators	Burge, Goldblat and Lester (2002)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Surveyed 78 high school students and before examining the relationship between music preference and suicidality conducted a factor analysis to determine how music preferences were grouped.
Key findings	Identified two types of individuals: those who liked heavy metal, classic rock, alternative and punk rock music; and those who liked country and pop rock. Considered the extent to which membership of either of these groups was predictive of suicidality, and found that a liking for country and pop rock was predictive of suicidality, but only for males.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Lacourse, Claes and Villeneuve (2001)
Study type	Analytical study: Individual-level
Country	Canada
Dependent variable	Suicidal thoughts



Method	Surveyed 275 secondary school students about preference for and worshipping of heavy metal music and about suicide risk.
Key findings	After controlling for other risk factors, heavy metal music preference and worshipping was not significantly related to suicide risk.
Interpretation	No evidence to suggest negative influence of media

Investigators	Lester and Whipple (1996)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thought
Method	Administered self-report questionnaire to 35 male and 58 female undergraduates.
Key findings	Preference for country and western music not associated with depression or suicidal
Interpretation	Some evidence to suggest negative influence of media

Investigators	Litman and Farberow (1994)
Study type	Descriptive study
Country	United States
Dependent variable	Completed suicide
Method	Case report of two youths who shot themselves after listening to Judas Priest's album <i>Stained Class</i> , which contains a number of songs that make overt or subliminal reference to suicide.
Key findings	Legal debate occurred over the impact of subliminal messages in the music, and the extent to which such messages could be implicated as either proximate or precipitating causes. The judge ultimately ruled that the influence of subliminal messages was unproven, and that there were many other situational factors and personality characteristics that predisposed the youths to suicide.
Interpretation	No evidence to suggest negative influence of media

Investigators	Maguire and Snipes (1994)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Replication of Stack and Gundlach (1992, see below).
Key findings	No significant effect of country music on white metropolitan suicide rate.
Interpretation	No evidence to suggest negative influence of media

Investigators	Martin, Clarke and Pearce (1993)
Study type	Analytical study: Individual-level
Country	Australia
Dependent variable	Suicidal thought
Method	Administered self-report questionnaire to 138 male and 109 female students.
Key findings	Preference for rock or heavy metal music significantly associated with suicidal thoughts, acts of deliberate self-harm, 'depression', 'delinquency', drug taking and family dysfunction, particularly for girls. Respondents who liked heavy metal music reported feeling worse after listening to it.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Peterson, Safer and Jobes (2008)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Asked 126 college students to listen three rock songs with suicidal lyrics: <i>Dirt</i> , <i>Desperate Now</i> and <i>Fade to Black</i> . Prior to doing so, they completed standardised personality and mood instruments. After doing so, they repeated some of these and also completed some additional measures (e.g., on memory for lyrics) and a projective story-writing task.
Key findings	Underlying vulnerabilities to suicide (e.g., certain personality characteristics and knowing someone who had died by suicide) predicted the impact of suicidal lyrics on participants.
Interpretation	Some evidence to suggest negative influence of media



Investigators	Rustad, Small and Jobes et al (2003)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts and attitudes
Method	Conducted two related studies. Study 1 involved 133 college students who were randomised into two groups which watched a rock music videos with or without suicidal content (featuring the songs Jeremy and Even Flow by Pearl Jam, respectively), and completed a series of tasks afterwards designed to assess their suicidal thoughts and attitudes. Study 2 involved 104 college students who were again randomised into two groups, each of which listened to and read the lyrics of three rock songs with or without suicidal content and completed a similar series of tasks to those required of participants in Study 1.
Key findings	In both studies, students who had been exposed to rock music with suicidal content were more likely to write stories with suicidal themes in a projective storytelling task than their counterparts who had been exposed to rock music with neutral content. However, differences between the two groups were negligible on all other measures of affect, attitudes and perceptions.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Scheel and Westefeld (1999)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Surveyed 121 high school students.
Key findings	Those who identified themselves as heavy metal fans had less strong reasons for living and more thoughts of suicide than non-fans. Heavy metal fans indicated that listening to music had a positive effect on their mood.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Stack (1998)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Conducted secondary analysis of data from the 1993 General Social Survey (see above).
Key findings	After controlling for religiosity, heavy metal fans were no more likely to be accepting of suicide than their non-fan peers.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Stack (2000)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Conducted secondary analysis of data from the 1993 General Social Survey, a national population-based survey in which around 1500 respondents were asked about a wide range of factors.
Key findings	After controlling for religiosity, heavy metal fans were no more likely to be accepting of suicide than their non-fan peers.
Interpretation	No evidence to suggest negative influence of media

Investigators	Stack (2002)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Conducted secondary analysis of data from the 1993 General Social Survey (see above).
Key findings	Opera fans were significantly more likely to be accepting of suicide in circumstances where the person had dishonoured his or her family.
Interpretation	Some evidence to suggest negative influence of media



Investigators	Stack and Gundlach (1992)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Determined suicide rates in 49 metropolitan areas. Using radio industry data, calculated amount of air time devoted to country and western music in these areas. Examined relationship between amounts of air time and suicide rates in a multivariate analysis that controlled for a range of other predictors of suicide.
Key findings	The greater the air time devoted to country music, the higher the white metropolitan suicide rate.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Stack and Gundlach (1995)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicide risk
Method	Conducted secondary analysis of data from the 1993 General Social Survey (see above).
Key findings	Country music fans at significantly higher risk of suicide than non-fans, as measured by their greater likelihood of gun ownership and marital disruption.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Stack, Gundlach and Reeves (1994)
Study type	Analytical study: Ecological
Country	United States
Dependent variable	Completed suicide
Method	Determined suicide rates in 50 states. Calculated magnitude of subscriptions to heavy metal magazines in each state. Examined relationship between magnitude of subscriptions and suicide rates in a multivariate analysis that controlled for a range of other predictors of suicide.
Key findings	The greater the magnitude of subscriptions to heavy metal magazines, the higher the youth suicide rate.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Stack, Krysinska and Lester (2008)
Study type	Descriptive study
Country	United States
Dependent variable	Completed and attempted suicide
Method	Sought historical evidence that the Hungarian song <i>Gloomy Sunday</i> had influenced individuals to take their own lives.
Key findings	Identified at least 17 suicides in Hungary that were linked to the song: some of those who died were listening to the song at the time of their death; others died clutching the sheet music; others left suicide notes quoting the lyrics. Also found that the song was implicated in suicides and attempted suicides elsewhere, and that it was banned in a number of places.
Interpretation	Some evidence to suggest negative influence of media

Investigators	Till B, Tran US, Voracek M, Niederkrotenthaler T. (2016)
Study type	Analytic: Individual
Country	Austria
Dependent variable	Suicidal Ideation
Method	943 Austrians surveyed regarding 50 songs (25 of which had suicide content), suicidal ideation, depression, psychoticism, hopelessness and life satisfaction measured. Logistic regression controlling for age, sex and education to examine if genres of songs associated with suicidal ideation and other outcomes.
Key findings	Preference for suicide-related songs had no association with suicidal ideation or any other suicide risk factor (hopelessness, depression, psychoticism).
Interpretation	No evidence of a negative influence of media



Appendix 3: Summary of studies of plays

Investigators	Jackson and Potkay (1974)
Study type	Analytical study: Individual-level
Country	United States
Dependent variable	Suicidal thoughts
Method	Considered the impact of <i>Quiet Cries</i> (one-act play about suicide) on suicidal thought by audience members. Varied media by which play was presented such that 160 undergraduates were assigned to one of four conditions: stage, television, radio, and no exposure. All subjects completed before and after questionnaires regarding their levels of depression and suicide potential.
Key findings	The play, regardless of the media by which it was presented, did not increase levels of depression and suicide potential in audience members relative to controls.
Interpretation	No evidence to suggest negative influence of media

