Belief in a Werther Effect: Third-Person Effects in the Perceptions of Suicide Risk for Others and the Moderating Role of Depression

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Werther Effect research has almost solely focused on the behavioral level of media effects. Clinically relevant predispositions like depression as well as the moderating role of media effects on a perceptional level have been omitted so far. To bridge this gap, we reanalyzed the data of an experiment conducted by Rustad, Small, Jobes, Safer, and Peterson: volunteer students' ratings for their self-risk of depression and suicide as well as their perceptions of others' suicide risk were investigated. While a Werther Effect could not be observed, there is a general overestimation of media influences on others—presumed Werther Effects—that are moderated by the personal degree of depression.

BACKGROUND

Phillips (1974) first positively associated media coverage of suicides and a rise in factual suicides. Over 50 studies have challenged these findings (Pirkis, Burgess, Blood, & Francis, 2007), and results were condensed into elaborate meta-analyses and overviews (Gould, 2001; Martin, 1990; Phillips & Lesyna, 1995; Platt, 1994; Schmidtke & Schaller, 1998; Stack, 1990, 2000, 2005, 2009; Velting & Gould, 1997). Although a copycat effect has been demonstrated at the individual level (Hawton et al., 1999), findings have been ambiguous ever since (Kessler & Stipp, 1984; Kessler, Downey, Milavsky, & Stipp, 1988; Niederkrotenthaler et al., 2010; Phillips & Paight, 1987; Tsai, 2010).

In this article, we argue, first, that the ambiguity of findings-at least partly-is caused by theoretical and empirical shortcomings of prior research on the "Werther Effect." Far too little attention has been paid to the underlying causes of the phenomenon (Pompili, 2010), experimental data only exist in small numbers (e.g., Jackson & Potkay, 1974; Steede & Range, 1989; Rustad et al., 2003; Peterson, Safer, & Jobes, 2008), and most studies still focus on the impact of suicidal media content on suicidal behaviors only. As a result of the mostly correlational research designs, there is no consensus about the causes and the direction of effects. Recent theorizing and empirical research has begun to address these shortcomings and suggests that the focus of research should be expanded to (1) an individual level (Reinemann & Scherr, 2011), (2) intervening variables (cf. Chan, Yip, Au, & Lee, 2005; Cheng et al., 2007; Fu, Chan, & Yip, 2009), and (3)

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The manuscript is based on secondary data that have been collected, analyzed, and published first by Rustad et al. (2003) in this journal, but it focuses on substantially different aspects than the original article.

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perceptual components of media induced suicidality. Otherwise, research on the Werther Effect is in danger of getting stuck in the theoretical and empirical patterns established in the 1970s.

Against this backdrop, we argue, second, that broadening the theoretical perspective of Werther research is necessary as explanations of suicidal thoughts and feelings in Werther research seem to appear from nowhere. Therefore, our study combines two different theoretical frameworks from different academic disciplines, which are used to explain differences in the perception of reality. In psychiatry, inadequately treated depressions are not only considered as one of the major causes for suicidality (Fergusson, Horwood, Ridder, & Beautrais, 2005), but also for biased perceptions of reality which in turn may contribute to suicidal ideation (Alloy & Abramson, 1979; Joiner, Brown, & Kistner, 2006). In communication science, it has been shown that the use of mass media may lead to blurred perceptions of reality (Paul, Salwen, & Dupagne, 2000; Perloff, 1993, 1999; Sun, Pan, & Shen, 2008), which can have an impact on media recipients' emotions and behaviors. Evidence in both domains, however, are reported to be ambiguous so far.

In the field of psychiatry, both negativity bias (Beck, Rush, Shaw, & Emery, 1979) and depressive realism (Alloy & Abramson, 1979) are discussed among others as possible consequences of depression. According to Beck's (1987) theory, reality perceptions of depressed individuals are framed by negativity, overgeneralization, and dysfunctional schemata of thinking about reality-a plausibility argument. In contrast, the "depressive realism hypothesis" posits that depressed people show a smaller bias when making estimations about reality. This hypothesis has been criticized as reality is not objective and therefore is not testable (Ackermann & DeRubeis, 1991).

In communication research, false estimations about reality are connected to the perceived desirability of media effects. If certain media effects are estimated as positive for oneself, that is, if certain media effects are desirable, people will tend to overestimate their impact on themselves (e.g., suggestions for a better living or other health issues provided by the media in a health campaign). If they are regarded undesirable, people will overestimate their impact on others (e.g., the impact of violent videos on personal level of aggression). In communication research, these effects are subsumed under the terms "first-person effect" (e.g., Golan & Day, 2008) and "third-person effect" (cf. Davison, 1983; Gunther & Storey, 2003; Neuwirth & Frederick, 2002). These findings have implications for the perception of reality insofar as it is shaped by peoples' anticipated consequences of presumed media effects on others. In sum, both depression and the media can influence perceptions of our environment, and this may lead to false estimations, such as the probability of risks for oneself and for others.

Our first aim in this article is to implement such perceptions of reality into the theoretical framework of the Werther Effect. Research has shown that thoughts, perceptions, and behavior can be primed by violent media content (e.g., Anderson, Carnagey, & Eubanks, 2003). Originally, the Werther Effect is situated on a behavioral level, but suicidal media content can also be seen as a cognitive prime, which increases the attention to a concrete problem, like suicides. Therefore, it may raise the awareness of suicides as a societal problem and this may lead to higher perceived risks of imitational suicides. As media influences on suicidal thoughts and behaviors can be considered as undesirable in general, indirect media effects are likely to occur. Thus, our first hypothesis is:

H1: People who are exposed to suicidal media content estimate the risk of suicide for others to be higher than for themselves. There is no such perceptual difference for people exposed to nonsuicidal media content.

In other words, even though a behavioral Werther Effect may not occur as a result of exposure to suicidal media content, a presumed Werther Effect may simultaneously be triggered among the same subjects. If so, the direct risk of imitational suicides may be smaller, while, at the same time, perceptions of the suicide risk of third-persons may increase. In this case, the Werther Effect includes at least two components, a (direct) behavioral component (Phillips, 1974) and a perceptual (indirect) component, which refers to estimations of suicide risk as an indicator for perceptions of reality. From a recipients' perspective, both components may lead to additive or subtractive (total) Werther Effects; for example, media content may be noncontagious on a direct, behavioral effects' level, but at the same time may lead to higher perceived risks for others to commit suicide, which can in turn influence future behaviors. Thus, third-person perceptions may contribute to the impression that suicidal behaviors are a common or socially accepted way of reacting to suicidal media content. From an actor's perspective in the field of research, one could argue that suicide researchers themselves have been subject to third-person perceptions as they have been reluctant to take serious the studies not supporting the existence of a behavioral Werther Effect.

The second aim of the study, as presumed media influences on others are likely to be induced by media content, is to test the role of depression as a moderator of presumed media effects and reality perceptions. There are two reasons for investigating this. First, individual predispositions are only seldom taken into account in Werther research, and so it seems important to take depression into further consideration as an important moderator of possible media effects. Second, as mentioned earlier, both media and depression have an impact on perceptions of reality. Given that there is little literature about possible interactions between media effects and depression, this article puts up that aspect for empirical evidence and discussion. Our research question is the following:

RQ1: How do presumed media effects and depressiveness both influence perceptions of reality primed by suicidal media content?

METHOD

To test our hypothesis about a presumed Werther Effect and to find evidence for interactions between depression and suicide-related media content, we reanalyzed the data set of one of the few experimental studies that have been conducted in the field (Rustad et al., 2003).¹ The original article focused especially on projective tasks that volunteers had to perform, and all in all, explicit measures showed no group differences.² Therefore, we switched the strategy for data analysis and focused on within-subject differences in responses. For this article, we used the original data of Experiment 1. In the following, we just briefly describe the most important aspects of data collection. Details are described in the original article by Rustad et al.

Procedure of the Experiment

Participants of both the control and the experimental groups watched a rock music video, the version shown only to the experimental group included a suicide. Participants were exposed to the videos in groups of 1–12. Before watching, participants were told that a music video would be shown, and that they would be asked to fill in a questionnaire after watching it. It was explicitly pointed out to participants that they would face stirring video material, which had to be taken into consideration when someone felt distraught. Afterwards, volunteer students

^{1.} The authors wish to thank Dr. Martin Safer and Dr. David Jobes (The Catholic University of America, Washington, DC) for their cooperation in sending us the data as well as for their helpful comments on earlier versions of the paper.

^{2.} Contrary to that, Rustad et al. (2003) found group differences for the story-writing task. Participants in the experimental group were more apt to write stories with suicidal content compared to the controls.

completed different written measures. Among other things, participants were asked to estimate the risk of depression and suicide for themselves and for others.³ Following participation, participants were carefully debriefed. All participants signed a written agreement of participation.

Stimulus

Both videos used in the experiment were similar in their length and musical characteristics, and were shown on a 17-inch TV monitor. The experimental group was exposed to the award-winning rock video "Jeremy" by Pearl Jam, released in 1992. At the time, the video was very popular. The video centers on a high school student who is tormented and bullied by his classmates. The video ends in an escalation when the teen is raising his hand toward his head standing in front of his classroom followed by a freeze frame of his classmates repulsed in terror and splattered with red. The control group was exposed to a concert video of Pearl Jam, which is generally comparable to the experimental stimulus except of its nonsuicidal content. From a theoretical point of view, one would not expect large copycat effects for this experimental setting, as in the experimental group participants were exposed to a fictional rock music video with a suicidal story. Research has shown that fictional suicide stories are less apt to evoke copycat effects than true-to-life suicide stories (cf. Stack, 2000).

Participants

A total sample of 133 undergraduate students from a mid-Atlantic U.S. university participated in the experiment. Seventy-four of them were women and 59 men, and the mean age was 19.13 years (SD = 2.35). Sixty-

six participants were in the control group and 67 in the experimental group. Because of missing data, numbers may vary slightly for some analyses. Students received research credit or extra credit for participation.

Measures

The two central measures for our secondary data analysis were (1) self-risk assessment (for depression and suicide; adapted from Rothman, Klein, & Weinstein, 1996) and (2) social judgment (others' risk of suicide; adapted from Jobes, Berman, & Josselson, 1986). As self-risk measures ranged from 0 to 100 (probability of a certain risk), and social judgment measures ranged from 3 to 15 (estimations based on three vignettes), both were recoded into a 5-point scale. As the personal risk of suicide was non-normally distributed, with skewness of 3.79 (SE = (0.21) and kurtosis of 18.4 (SE = 0.42), we used equal percentiles as cutpoints of recoding. According to that logic, participants were distinguished in those with and without an increased estimated risk for depression by median split, as depression was also non-normally distributed, with skewness of 1.24 (SE = 0.21) and kurtosis of 0.81 (SE = 0.42).⁴ In contrast, as the estimated likelihood of others' suicide was approximately normally distributed, with skewness of 0.13 (SE = 0.21) and kurtosis of 0.53 (SE = 0.42), cutpoints of recoding based on equal width intervals to perform comparisons of means.

4. According to experimental logic, the estimated risk for depression is strictly speaking not an independent variable, as it has been measured after the presentation of the stimulus and therefore can be already influenced by the degree of suicidality presented in the stimulus. A stronger experimental design would measure changes of these variables by pre- and post-test measures of these constructs. Nevertheless, there are no significant differences between the experimental and the control group members concerning their estimated risk of depression, t(131) = 0.40, p > .05 $(M_{\rm exp} = 23.9; M_{\rm ctrl} = 25.6; SD_{\rm exp} = 24.5; SD_{\rm ctrl} = 25.8).$ Further, we only used the estimated risk for depression as a categorical factor for group means comparisons and not as a metric variable.

^{3.} In communication research, when thirdperson effects are investigated, participants are usually asked directly about the impact of a certain media message on (1) themselves and (2) on others. In contrast to that, the perceptual tendency involved in the third-person effect has also been measured less directly (e.g., Peiser & Peter, 2000).

To reanalyze the data, we calculated paired samples *t* tests.

RESULTS

Presumed Werther Effect

Rustad et al. (2003, p. 126) report no statistically significant group differences for self-risk assessments and social judgment in the first study. Therefore, the authors conclude that a Werther Effect failed to appear explicitly. The first aim of our study, then, was to test for a presumed Werther Effect. The effect would be substantiated if participants exposed to suicidal media content perceived a higher risk of suicide for others than for themselves while this difference would not appear for participants exposed to nonsuicidal content. There is no need to discuss whether the message of the stimulus is desirable for a person or not, so that effects should be expected to occur. Thus, we conducted paired samples t tests for both the experimental and the control groups. Results show that participants who were exposed to the suicidal music video rated the suicide risk higher for others than for themselves, t(65) = 2.51, p < .05 $(M_{\rm me} = 2.6;$ $M_{\text{others}} = 3.1;$ $SD_{\rm me} = 1.4;$ $SD_{others} = 0.7$). The controls did not show such differences in their risk judgments, $t(65) = 0.47, \quad p > .05 \quad (M_{\rm me} = 3.0; \quad M_{\rm oth-})$ $ers = 3.1; SDme = 1.5; SD_{others} = 0.7).$ This corroborates the findings of a great deal of the previous work on third-person effects in the field of communication research and suggests that a presumed Werther Effect

exists. While the Werther Effect is assigned to a behavioral dimension, the presumed Werther Effect refers to a perceptual dimension (Table 1).

Perceptions of Reality and the Moderating Role of Depression

The second aim of the study was to focus on perceptions of reality, which can be influenced by both the media and depression. To answer our research question, we divided the sample into two groups based on their self-reported risk of depression by median split and then looked for differences in risk perceptions.

Regardless of the experimental condition, participants with lower degrees of depression (LD) rated suicide risks higher for others than for themselves. This is what we introduced as a presumed Werther Effect of suicidal media content for the total sample [experimental group: $M_{me(LD)} = 2.3$; M_{oth-} ers(LD) = 3.0; SDme(LD) = 1.1; $SD_{others(LD)} = 0.7$; t(37) = 3.28; p < .01; control group: $M_{me(LD)}$ = 2.2; $M_{others(LD)} = 3.1$; $SD_{me(LD)} = 1.2$; $SD_{others(LD)} = 0.7$; t(33) = 4.22; p < .001; Table 2].

In contrast to a higher degree of depression (HD) leading to entirely different risk perceptions, when participants were exposed to suicidal media content, a HD spirited away the presumed Werther Effect (experimental group: $M_{me(HD)} = 3.1$; $M_{others(HD)} = 3.2$; $SD_{me(HD)} = 1.5$; $SD_{others(HD)} = 0.7$; t(27) = 0.36; p > .05). This means that depressive participants estimated the probability of committing suicide as high for themselves as they did for others. Moreover, the estimates

TABLE 1

Perceptional Differences between the Personal Risk of Suicide and the Risk of Suicide for Other People Evoked by a Suicidal Media Message

	Estimated own risk for suicide <i>M (SD)</i>	Estimated suicide risk for others M (SD)	t(65)	
Experimental group	2.6 (1.4)	3.1 (0.7)	2.51*	
Control group	3.0 (1.5)	3.1 (0.7)	0.47	

*p < .05.

TABLE 2

	0,5	1	0	5 1	1
	Estimated own risk for suicide		Estimated suicide risk for others		
	LD	HD	LD	HD	
	M (SD)	M (SD)	M (SD)	M (SD)	
Experimental group	2.3 (1.1)	3.1 (1.5)	3.0 (0.7)	3.2 (0.7)	$t_{\rm LD}(37) = 3.28^{**}$ $t_{\rm HD}(27) = 0.36$
Control group	2.2 (1.2)	3.8 (1.2)	3.1 (0.7)	3.0 (0.8)	$t_{\rm LD}(33) = 4.22^{***}$ $t_{\rm HD}(31) = 3.52^{**}$

Perceptional Differences between the Personal Risk of Suicide and the Risk of Suicide for Other People Evoked by a Suicidal Media Message for People with Higher or Lower Self-Reported Depression

LD, lower degree of depression; HD, higher degree of depression.

p* < .01; *p* < .001.

of highly depressive participants are on the same level as the estimates of nondepressive participants or others. This means that the presumed Werther Effect disappears when depressive realism prevails. The mechanism behind this finding is that higher risks of depression lead to a more realistic view on reality, which in turn leads to less overestimation of media effects on others, when exposed to suicidal media content. Surprisingly, this is not the same for the control group, where an inverse effect could be observed instead: participants estimated the risk of suicide higher for themselves than for others [control group: $M_{\rm me(HD)}$ = 3.8; $M_{\rm others(HD)}$ = 3.0; $SD_{\rm me(HD)}$ = 1.2; $SD_{others(HD)} = 0.8$; t(31) = 3.52; p < .01)]. This finding can be interpreted as a strong reduction in the presumed Werther effect because of depressive realism, which inverts the direction of the effect insofar as there is now an overestimation of risk on oneself (Table 2).

To picture our findings, we made a further assumption: we considered the degree of depression (high vs. low) and characteristics of the media stimulus (suicidal vs. nonsuicidal) to be equally relevant for perceptions of suicide risks. The rationale behind this was that (1) the study builds on this underlying understanding and that (2) we found no literature that focuses on this particular issue and suggests a different strategy of analysis. Therefore, we recoded both variables into one new variable (*x* axis in Figure 1) that represents these two factors in sum. As a result, Figure 1 puts our findings in a nutshell and illustrates a curvilinear relationship between risk perceptions and the degree of depression as well as the suicidality of media content.

DISCUSSION

After more than 30 years of Werther research, there still is no consensus about the extent of the effect and the psychological processes behind it: while some studies support the notion of strong copycat effects, others do not. This split has been the subject of several recent meta-analyses. In these studies, basically three different conditions for strong copycat effects have been identified: (1) characteristics of the media message; for example, Werther effects are most likely for nonfictional stories about celebrity suicides (Cheng et al., 2007; Stack, 2000); (2) audience characteristics, for example, Youths and female recipients are more likely to be affected by suicidal media content (Stack, 2005, 2009); and (3) the medium, for example, newspaper reports seem to be more apt to copycat effects than short television news stories of about 20 seconds (Stack, 2005). In sum, there are several alternative, evidencebased explanations for the split in the find-



Figure 1. Differences between risk perceptions as a function of the degree of depression and the suicidality of media content. X coordinate: -2 = no SM and high DD; -1 = no SM and low DD; 1 = SM and low DD; 2 = SM and high DD. Y coordinate: Positive values represent higher estimations of the personal risk, negative values represent higher estimations of the risk for others. PR, personal risk; OR, others risk; DD, degree of depression; SM, suicidality of media content.

ings in the Werther literature—and mainly these are based on meta-analyses.

This study presents experimental evidence indicating that people estimate the risk of suicide higher for others than for themselves as a result of being exposed to suicidal media content. In other words, exposure to suicidal media enhances a belief in a Werther effect for other people more than fostering the risk of personally committing suicide. From a communication research perspective, this finding fits into the growing body of research that focuses on third-person effects (Davison, 1983; Neuwirth & Frederick, 2002; Paul et al., 2000; Perloff, 1993, 1999; Sun et al., 2008). As the original experiment by Rustad et al. (2003) used suicidal media content as a stimulus, it can be assumed that undesirable media effects are likely to occur and this is an important antecedent for third-person perceptions. At the same time, Rustad et al. reported no Werther Effect in their first analysis. Basically, the term "Werther Effect" refers to aggregate data and points to macro-level media effects on a behavioral level, but beside that fact, the experiment serves as an example for the shortcomings in this field of research: some studies find a Werther Effect, some do not. In general, there are at least two possible explanations for that: (1) dependent measures are not one-dimensional, and (2) important independent measures (e.g., individual predispositions or characteristics of a media story) that affect the effect are not observed (cf. Reinemann & Scherr, 2011). Findings of the current study support both of these two possible explanations.

The study questionnaire indicates a perceptual perspective of suicide risk, as participants were asked only to assess their personal risk of suicide. "Traditional" Werther research uses official suicide rates, which is based on factual suicides. This implies that a usual Werther Effect will not normally occur in an experimental setting. In contrast, other media effects are more likely to occur, as perceptions of reality are assessed. Here, people overestimate others' risk of suicide compared to their own when being exposed to suicidal media content. This is what communication research calls a "third-person effect," and what we call a "presumed Werther Effect" in the current context. This finding further supports the idea of a perceptual level of the Werther Effect beside its behavioral level (factual imitation of suicides), which is mostly investigated by aggregate analyses. People not only might imitate suicides when exposed to relevant media content, but media content might also shape their estimations of, for example, others' suicide risk in reality and this, in turn, may have further behavioral consequences. On the one hand, existing research implies that a presumed Werther Effect can lead to the support for censorship of suicidal media content or stronger media regulations. On the other hand, when the personal risk of suicide is estimated higher than on others, research on first-person effects implies that there can be a greater willingness to donate for suicide prevention or to volunteer for these organizations (cf. Golan & Day, 2008). Therefore, suicidal media content does not only have a direct impact on individual behavior, but also on their perceptions of reality. And these may influence attitudes and behavior in the future. For example, people might be less cautious and therefore might not avoid situations of being exposed to suicidality through the media or through a conversation with other people when they underestimate their personal risk of suicide. There is no need to say that these people possibly jeopardize the success of a therapy when they subliminally tamper with negative impressions.

We also focused on depression as an important antecedent for suicidality and for assessing reality, because the study questionnaire was built as to a perceptual perspective. Our findings show that depending on different degrees of depression and of the suicidality of media content, estimations of personal risks as well as of others' risks describe a curvilinear function. All in all, higher degrees of depression reduce overestimations of others' suicide risk in both the experimental and the control settings, which may culminate in an inverse effect (overestimation of media effects on oneself). In the control setting, depressed persons, however, are more apt to report higher suicide risks for themselves and less for others. This finding can be interpreted as an outcome of depressive realism, which can reduce biases of reality perception induced by the media. Further, this implies that (at least) depression has to be taken into consideration when assessing the Werther Effect in the future.

Our findings must be interpreted with caution, however, because of at least five possible objections. First, experiments are not that prevalent in third-person research compared to surveys. The underlying problem is the tendency of experiments to boost significant findings because of variable-oriented considerations (Hovland, 1963; Paik & Comstock, 1994). But for third-person effects, meta-analysis showed that method was not a significant moderator (Paul et al., 2000, p. 78). Second, one might argue that results may depend on the use of a student sample in the experiment and therefore cannot be generalized. But the primary goal of our study was to give the first empirical evidence that an indirect Werther Effect might occur, and that these findings are internally valid and causally related (Lang, 1996; Sparks, 1995). Third, trials were not independent in view of the fact that students were exposed to the videos in groups. It is at least possible that some participants might have influenced others through verbal and nonverbal communication (e.g., sighs or communication of shock and awe). Fourth, measures were not explicitly formulated, including concrete estimations of media effects (e.g., "I let myself be influenced ... by a certain media message," rated on a 5-point Likertscale ranging from not at all to very much), as this is usually the case in communication research. This inconsistency in research methods is ascribable to our secondary data analysis. Thus, our findings must be carefully interpreted and seen as a first evidence for an

indirect Werther Effect. Follow-up studies will have to challenge this aspect in detail. Fifth, social desirability—an important antecedent of a third-person effect—has not directly been measured, but instead been assumed (Johansson, 2005, p. 84). Although other studies have been exposed to this critique, in the present case, nobody would really think of the possibility that someone will regard the stimulus as a desirable media message, so basically this objection can be considered as nonvital.

In conclusion, one more aspect has to be challenged in the future. In communi-

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cation research, third-person effects are explained by self-enhancement (Perloff, 1993, 2002). People internalize possible media effects when they are desirable and externalize them when they are not. Therein, media researchers see a mechanism for selfenhancement to strengthen, for example, their self-esteem. Insofar as third-person effects could be observed in the total sample for suicidal media content as well as for people with differing risks of depression, findings can also be interpreted as contrary to Beck's theory of depressive negativity.

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