Impact of Adherence to Media Reporting Guidelines in Suicide

News-Focused Instagram Posts by Malaysian News Media

Organisations - A Study on User Responses

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Abstract

Adherence to media reporting guidelines on suicide news reporting has been found to be an effective population-level prevention strategy for suicidal behaviours. Nevertheless, media professionals encounter several challenges when attempting to implement these guidelines in their work. These challenges can be attributed to the limited research available on how to effectively integrate these guidelines into journalistic practices, and the absence of compelling evidence supporting their efficacy in reducing population-level suicidal behaviours. This need for more research on the significance of adhering to media reporting guidelines is particularly relevant in the context of social media and within Southeast Asian countries. To address this gap, the present study aimed to examine the nature of suicide news reporting on Instagram by Malaysian news media organisations and to explore the user sentiments expressed by audiences in relation to such content. The study conducted a series of content analyses and sentiment analyses on the posts and comments associated with ten Instagram accounts officially affiliated with prominent Malaysian news media organizations. The findings of the study indicate that within these accounts, there is a greater prevalence of suicide news-focused Instagram posts that generally adhere to media reporting guidelines compared to those that did not adhere to these guidelines. Furthermore, the analysis revealed various distinguishing features between posts that

adhered strongly to media reporting guidelines and those that adhered less rigorously. Additionally, the analysis on audience sentiments within the comments found support for the importance of adherence to media reporting guidelines by Malaysian news media organizations when covering suicide news-related topics. This study delves into the nature of adherence to media reporting guidelines within suicide

news-focused Instagram posts by Malaysian news media organizations, its impact on audiences, and the potential mechanisms underlying this relationship.

Introduction

With roughly 800,000 suicide cases reported globally in a year and a suicide attempt typically occurring roughly every 29 seconds, it is evident that suicide is an issue that requires significant attention, especially at the population level (Heron, 2016; Menon et al., 2022). Developing prevention strategies to address suicide at this level necessitates a risk-factor-based approach. That is, while promoting suicide-protective behaviours and awareness is generally beneficial, effective population-level suicide prevention would require strategies to reduce specific suicide risk factors (Turecki et al., 2019). Suicide, however, is an epiphenomenon of various situational, dispositional, and socioeconomic risk factors (See Literature Review section). Thus, population-level suicide prevention strategies that adopt a risk factor-based approach must first identify and subsequently target the preventable suicide risk factors (Blanco et al., 2021).

A suicide risk factor that is emerging in popularity within the current literature on suicide prevention is the risk that exposure to suicide events, either directly (through personal contact) or indirectly (via the media), can promote the spread of related behaviours to

individuals unrelated to such events, a term coined "Suicide Contagion" (Cheng et al., 2014; Pirkis et al., 2006). The current study focused primarily on the latter, that is, suicide contagion spread indirectly through the media.

The present study particularly examined how news media organizations can promote suicide contagion through their news reporting practices. Suicide contagion in this context has been associated with two phenomena: Werther Effects and Papageno Effects. The specific differences between these two phenomena are elaborated upon in the following section (See Literature Review section). Generally, however, Werther Effects are linked to suicide news reporting practices that increase the number of suicide events within a population after a reported suicide event. In contrast, Papageno Effects refer to practices generally decreasing suicide cluster events (Domaradzki, 2021).

Despite criticisms toward the current literature supporting the existence and relevance of Werther effects, promoting protective suicide news reporting practices and reducing harmful practices to mitigate Werther Effects and enhance Papageno Effects are generally argued to be crucial population-level suicide prevention strategies (Armstrong et al., 2020; Ayub et al., 2022; Zalsman et al., 2016). Media reporting guidelines have been implemented across several countries to facilitate these goals, although with varying degrees of success (Chandra et al., 2014). The current study

addresses the relationship between adherence to these guidelines and suicide contagion, explicitly focusing on online suicide news reporting in Malaysia. This was achieved primarily by examining the characteristics of suicide news-focused Instagram posts by Malaysian news media organizations. Suicide is a remarkably complex and vital issue within Malaysia, and understanding how suicide is discussed and perceived at the population level, as well as identifying potential ways to improve such discussions and perceptions, is vital (Thum et al., 2023). Exploring this topic in the context of social media is particularly relevant since data from social media platforms could offer new insights into suicide news reporting practices and the functioning of contagion, which could potentially contribute to improving the implementation and impact of the current media reporting guidelines (Fahey et al., 2018). Additionally, the current news media landscape has shifted toward social media platforms, thus further supporting the relevance of research examining news disseminated on social media platforms (Nielsen et al., 2016).

The relevance of research concerning adherence to media reporting guidelines is also rooted in the challenges journalists and news media organizations face in adhering to such guidelines (Markiewitz et al., 2020). Some media professionals argue against adherence to media reporting guidelines due to insufficient evidence linking non-compliance to the guidelines and suicide contagion

(Niederkrotenthaler & Stack, 2017; Niederkrotenthaler et al., 2010; Sinyor et al., 2018; Stack, 2005). Others have argued that factors beyond lack of awareness and reluctance, related to journalism practices, hinder news media professionals from adhering to these guidelines. To address this latter claim, efforts have been made to develop more appropriate alternative models of responsible suicide news reporting, such as the Responsible Suicide Reporting Model (RSR). The RSR considers the risk factors of poor suicide news reporting while emphasizing the factors within journalism practice that may hinder journalists from adhering to media reporting guidelines. Implementing this model alongside media reporting guidelines within newsrooms has been argued to be an effective means to improve adherence to guideline recommendations (Duncan & Luce, 2022; Duncan & Luce, 2020). Another approach to improving adherence to media reporting guidelines is by increasing research supporting the harmful impacts of poor suicide news reporting, as well as the relevance of adherence to these guidelines for news media organizations (Niederkrotenthaler & Stack, 2017; Sinyor et al., 2016). There is a lack of research within the Malaysian context that address either of these approaches to increasing adherence to the local media reporting guidelines. Thus, in line with the latter approach and in addition to determining the characteristics of suicide news-focused Instagram posts by Malaysian news media organizations, the current study compared audience engagement toward posts that highly adhered to the media

reporting guidelines and audience engagement toward posts that lowly adhered to the guidelines, through an examination of user sentiments within the comments.

News media organizations have recently actively pursued 'audience engagement' to address issues associated with the shift toward social media platforms within the news media landscape (Belair-Gagnon et al., 2019; Franklin, 2014). Audience engagement in the context of news reporting encompasses how news consumers engage or respond to news media content (reception-oriented) and how news media organizations engage with or consider the needs and preferences of their audience (production-oriented). Typically, for-profit news media organizations will attend to reception-oriented audience engagement, and non-profit news media organizations will attend to production-oriented audience engagement. However, with the current social media landscape and the shift towards audiences as active "producers" who not only contribute information and post commentaries, but also produce and distribute content that could be associated with news media organizations (Bruns, 2008), for-profit organizations may need to also attend to production-oriented audience engagement. According to the Framing theory (See Theoretical Framework section), how news media organizations present or discuss topics within their news reports can influence how audiences discuss these topics within their network (D'Angelo, 2019). In the context of suicide

news reporting, this would suggest that production-oriented audience engagement, that is attending to the needs of audiences such as through ensuring responsible suicide news reporting, is relevant to attending to the ways in which audiences discuss and therefore potentially share news disseminated by news media organizations. Therefore, in addition to examining how audiences respond to suicide news-focused Instagram posts that are highly adhering to media reporting guidelines, as compared to posts that are lowly adhering to the guidelines (reception-oriented audience engagement), the study also examined whether framing effects underscore this relationship (production-oriented audience engagement). The findings from this study would be particularly relevant to Malaysian news media organizations, as it may inform them of whether their adherence to the media reporting guidelines influence their audiences' discussion of suicide news and topics, as well as impact reception-oriented audience engagement.

Literature Review

Suicide and Suicide Prevention

Suicidal behaviours are a significant public health concern with profound implications at the individual and community levels (Galfalvy et al., 2015; World Health Organization, 2014). Each suicide death represents a tragic event that affects not only the person who died by suicide but also their family, friends, and the

broader community (Brenner et al., 2011; Tombacz et al., 2017). Families left behind after a suicide event can experience devastating difficulties, including decreased emotional bonding and poorer abilities to adapt to the aftermath (Jordan, 2008; Nicholas et al., 2022). These challenges can additionally extend beyond families, as losing a friend to suicide can similarly lead to increased stress and depression, especially amongst young people (Bartik et al., 2013). Moreover, such challenges may be exacerbated by the social stigma often associated with suicide events (Carpiniello & Pinna, 2017). For example, the type of support that family members receive after being bereaved by a suicide event can differ from the type of support they may typically receive due to grief associated with other traumatic or stressful events (Worden, 2018). Grieving from a suicide loss by a family bereaved by a suicide event may involve a type of stigmatized grief, as the bereaved may perceive a lack of recognition from their community to their right, role, or capacity to grieve (Hanschmidt et al., 2016). Such stigma has been linked to the complex, multi-faceted, and poorly understood causes of suicide events (Cerel et al., 2008; Mathew et al., 2021; Yaqub et al., 2020). Thus, it is evident that the broad consequences of suicide and the potential for suicide stigma to worsen such consequences necessitate further research on suicide prevention and stigma.

One method of suicide prevention is the identification and assessment of suicide risk (Ribeiro et al., 2016). Models of suicide

typically incorporate multiple factors to explain suicide risk, including biological, psychological, social, cultural, clinical, and environmental elements (Bierman et al., 2010; O'Connor, 2011; Miller et al., 2013). Various measures have been proposed to identify such risk factors and to determine an individuals vulnerability to suicidal behaviours, such as standardized risk scales, adaptive tests, and machine learning on large datasets (Turecki et al., 2019). However, the reliability of these approaches still requires further investigation as some studies question their effectiveness (Chan et al., 2016; Runeson et al., 2017). Despite this, many countries support the implementation of these instruments at the policy level due to their potential to detect suicidal behaviours in help-seeking individuals (Turecki et al., 2019). However, it is essential to note that screening instruments alone are insufficient for effective prevention and should be accompanied by preventative strategies to effectively reduce suicide risk in vulnerable individuals, regardless of whether they are seeking help (Miller et al., 2017).

The Institute of Medicine placed preventative interventions within a broader mental health intervention framework that differentiates it from reactive or remedial treatments. It further divides it into three sub-categories: universal, selective, and indicated interventions (National Research Council and Institute of Medicine, 2009). Indicated interventions for suicidal behaviours target individuals beginning to show substantial difficulty with suicide ideation,

defined as having thoughts related to ending one's life (Harmer et al., 2020). Examples of indicated interventions include individualized interventions such as psychological therapy, and social support tools like case management, for individuals who express concerns about suicide ideation (Ramchand et al., 2016). Suicide ideation has been found to often precede suicide attempts, and thus, indicated interventions can be seen as conducive to suicide prevention (Jobes & Joiner, 2019). Some have argued, however, that this approach encompasses strategies more akin to "early intervention" and is closer to treatment rather than prevention (Gvion & Apter, 2012). Selective interventions, on the other hand, target specific risk factors and are more aligned with improving the detection, diagnosis, and management of suicide risk factors for specific at-risk groups (Roskar et al., 2010; Richard-Devantoy et al., 2015; Van Heeringen, 2012). Examples of selective interventions may include providing educational suicide prevention programs for low-income children/families (Greenberg & Abenavoli, 2017). Understanding and addressing dispositional and situational risk factors is crucial for reducing the likelihood of suicide events. However, this approach may not be conducive to population-level prevention efforts due to its restricted focus on specific groups and communities (De Pablo et al., 2021).

Conversely, universal interventions involve a similar approach to suicide prevention that emphasizes the need to address suicide risk

factors for entire populations rather than specific groups (Turecki et al., 2019). Universal interventions target risk factors at a population level, encompassing socioeconomic, environmental, and various situational elements that might contribute to suicide risk (King et al., 2008). The strengths of universal interventions are manifold, as they hold the potential to foster adaptive coping and resilience across a spectrum of situations and contexts, they can be provided irrespective of risk status, thus avoiding stigma, and they could potentially curtail or prevent various suicide risk factors (Greenberg, 2010; Hale et al., 2014). Despite these advantages, however, policymakers have historically underestimated the value of universal interventions, partly because existing research and benchmarks for effectiveness prioritize impacts at the individual level rather than the population level (Greenberg & Abenavoli, 2017). A universal intervention relevant to the present study is the promotion of responsible suicide news reporting.

Suicide Contagion

There is substantial evidence to support the notion that inappropriate exposure to suicidal behaviours in the media can lead individuals to imitate such behaviours (Stack, 2005). This phenomenon, known as Suicide Contagion (Contagion) has been extensively studied and empirically supported in both fictional and non-fictional suicide-related content (Ortiz & Khin Khin, 2018). Despite this, there are disparities within the literature on contagion,

with inconsistencies regarding the definition of "contagion" itself and the theoretical framework underlying its mechanisms (Stack, 2005).

Cheng and colleagues, 2014, argue that the inconsistent definition of contagion is an important consideration for investigations for research on suicide prevention since such inconsistencies can lead to large-scale neglect of gaps in knowledge — which become much clearer with closer examination — and a limited potential to establish more solid foundations for future research. To address this issue, and for clarity, the current study will interpret "Contagion-as-imitation", which is a definition of contagion that refers to the phenomenon of suicidal behaviours being spread through social networks or communities due to imitation or modelling. This definition of contagion was put forth by Cheng and colleagues (2014) to offer the greatest practical utility for examining how suicidal behaviours spread at the population level through interactions with media content, which is particularly relevant for the current study.

In addition to defining contagion, understanding its mechanisms is argued to be equally crucial for effectively implementing preventive efforts to mitigate its harmful effects (Kral, 2019). However, similar disparities exist in the literature regarding the mechanisms underlying this phenomenon. Cheng and colleagues (2014) argue that in interpreting contagion as imitation, the influence of suicide-

related media content on suicidal behaviours at the population level can be understood through the larger concept of "behavioural contagion". Behavioural contagion is a socio-psychological phenomenon in which behaviours spread rapidly within a social group through a stimulus-response process i.e., observing models performing suicidal behaviours without punishment can prompt individuals with pre-existing motivations toward such behaviours to overcome their internal constraints (Wheeler, 1966). This perspective clarifies the potential role the media has in creating *stimuli* that could promote suicidal behaviours as a *response* at both the individual and population levels.

However, several other theories could similarly be used to explain this definition of contagion. Taiminen (1992), for example, suggests that the psychoanalytic concept of "projective identification" can be applied to explain the seemingly intrapersonal nature of contagion. According to this theory, a viewer of suicide-related media content may project parts of themselves onto a suicide event, due to feelings of empathy, which may then cause the viewer to internalize their projection, defined as a blurring of the self and the suicide event, which can then lead to subsequent suicidal behaviours. Alternatively, the activation hypothesis argues that the activation of one thought can trigger other related, preprogrammed, thoughts (Berkowitz, 1989). In applying this to suicide contagion, it could be argued that exposure to images related to suicide could activate

related thoughts of suicide in the minds of its audience, which could then lead to suicidal behaviours. Contrastingly, a social psychological theory termed the social learning theory, which is very similar to the aforementioned theory of "behavioural contagion", argues that the learning of new behaviours can occur simply through observation (known as observational learning) (Bandura, 1977). In the context of suicide contagion, it is argued that individuals can reflect on and learn the suicidal behaviours that they are exposed to from models presented in the media (Edwards et al., 2020). The social learning theory is additionally often paired with the identification theory, which argues that persons who seem similar in emotional states or experiences to those who died or were injured in suicide events presented in the media may be more encouraged to imitate such behaviours, due to such similarities (Domaradzki, 2021). Moreover, Joiner (1999) holistically challenged the assumption that there are "mechanisms" behind suicide contagion, socio-cultural, socio-psychological, cognitive, or otherwise. Rather, he argued that suicide clusters at the population level often associated with contagion occur coincidentally, due to a phenomenon termed "Associative relating". Associative relating argues that individuals will tend to preferentially associate with other individuals who have similar characteristics. Thus, spatial clusters of suicide following a media report of a suicide event, do not occur due to the media exposure of the event but rather due to the tendency for individuals who are at high risk of suicide to associate

with other individuals who are similarly at high risk of suicide. These varying views highlight the lack of clarity and normative theorizing regarding the mechanisms of contagion. Further understanding of contagion, its consequences on health and well-being, and the mechanisms underlying the potential relationship between the media and suicidal behaviours is therefore needed. However, despite the inconsistent definition of its mechanisms, when examining contagion in the context of suicide news reporting, two phenomena are consistently mentioned within the literature: the Werther Effect and the Papageno Effect.

The Werther Effect, originally derived from Goethe's novel "The Sorrows of Young Werther" in 1774, is similar to contagion and is characterized by observable increases in suicide events at the population level following exposure to suicide-related media content (Edwards et al., 2020). Empirical evidence supports the Werther effect and the idea that both the quantity and quality of media portrayals of suicide events in the media can trigger additional suicides in society (Domaradzki, 2021). However, recent investigations and critiques would suggest a need for further examinations of the reliability of these claims. For example, a recent re-analysis of two classic articles "supporting" the Werther Effect found that they do not actually strongly support the effect. Specifically, the data from Phillips (1974) does not support the Werther effect, and the data from Phillips and Carstensen (1986)

only partially supports it (Hittner, 2005). Such findings would suggest that the Werther effect may not be as robust as initially believed. Alternatively, the effect could be of practical importance but methodological and theoretical issues hindered the ability to find the effect. Luce (2012), agrees with the former in arguing that from a theoretical perspective, the Werther effect exemplifies a 'hypodermic needle approach' to media research, which assumes that media audiences passively accept media messages. Research has consistently shown that media audiences actively engage with and respond to "media messages" in diverse ways (Proctor, 2017). Thus, the media's influence on encouraging suicidal behaviours, as argued by the Werther Effect, may be an oversimplified and overstated claim rooted in an incomplete understanding of how audiences receive media messages (Lacey, 2017). Moreover, Niederkrotenthaler and colleagues (2014) found that studies on Werther effects have largely relied on aggregate data, whereby they are unable to identify whether those who died by suicide after media coverage of a suicide event were actually exposed to such media. Thus, in addition to the current literature on Werther effects embodying a 'hypodermic needle approach' to media research, the empirical evidence supporting this phenomenon has also been argued to be largely correlational and problematic. In line with this, many of the studies that have been conducted on Werther effects have also been ecological studies and are therefore subject to ecological fallacy. There is a limited number of studies that

investigate this phenomenon at the individual level, and that further support the negative influence of sensationalist suicide news reports on actual suicide behaviour (Blasco-Fontecilla, 2013). These criticisms suggest that the current literature supporting the Werther effect is less demonstrative of strong empirical support and more aligned with illusory correlations. The case of the Bridgend Suicides in Wales 2008 illustrates this point, whereby media reporting was blamed for the increase in suicides that year within that region, but a closer examination of the events showed a lack of evidence relating such events to its media coverage (Luce, 2016).

Despite the lack of normative theorizing and experimental research in support of a causal relationship between exposure to suicide media content and suicidal behaviours, existing literature and suicide prevention advocates still generally support the efficacy of reducing Werther effects. A recent review, for example, found that the literature generally supports a positive association between media coverage of suicidal behaviours and actual suicidality, with news coverage of suicide events being one of the most frequently associated mediums to Werther effects (Domaradzki, 2021). This review additionally found a growing number of studies supporting that such risks of contagion, in the context of suicide news reporting (i.e., Werther effects), can be reduced through adherence to media reporting guidelines. Thus, although largely correlational, the current literature would suggest the relationship between suicide

news reporting and population-level suicide events to be relevant and deserving of further examination. The disparity within the empirical evidence and the lack of normative theorizing may in fact highlight the need for a better understanding of the negative influences suicide-related media content may have on population-level suicidal behaviours (Saini et al., 2021).

However, not all suicide-related media content has a negative influence, as under certain conditions, exposure to such content can have educative or preventative effects leading to a lower risk of suicide attempts at the population level (Domaradzki, 2021). Luce (2019) finds the capacity for responsible suicide news reporting to induce positive effects to be a sufficient justification for the promotion of responsible reporting practices. Niederkrotenthaler and colleagues (2010) introduced the term *The Papageno Effect* to describe such positive influences of responsible media reporting on suicide prevention. They categorize media with the potential to elicit Papageno effects based on their capacity to promote positive coping mechanisms for suicide ideation for audiences, as well as highlight to audiences the consequences of suicide behaviours on a person's direct social network and their quality of life.

The characteristics of suicide-related content associated with Werther effects or Papageno effects can vary depending on the type of media. Generally, what constitute practices that may induce Werther effects in the context of suicide news reporting include; 1)

Simplistic explanations for suicide, 2) Excessive reporting of suicide in the news, 3) Sensational coverage of suicide, 4) Including descriptions of suicide, 5) Presenting suicide as a means to an end, and 6) Glorifying suicide or a suicide event (Arendt, 2018). On the other hand, as mentioned, the Papageno effect in this context is often associated with protective and educative reporting practices that provide constructive coping strategies, promote help-seeking behaviours, and emphasize alternative solutions to adverse circumstances related to suicide ideation (Gunn et al., 2020). Generally, it is argued that to promote Papageno effects and avoid Werther effects, suicide news reports should focus on the complexity of suicide, provide information on warning signs or risk factors, and offer suicide prevention resources rather than sensationalize suicide events (Markiewitz, Arendt & Scherr, 2020). To guide media professionals in promoting Papageno effects and reducing Werther effects within their suicide news reports, several media reporting guidelines have been developed.

Suicide News Reporting Guidelines

Over the years, various organizations have developed media reporting guidelines to promote responsible suicide news reporting (Pirkis et al., 2006). While these guidelines may differ in their development and implementation, they generally emphasize the need to reduce harmful elements within suicide news reports,

prevent the exposure of triggering content to vulnerable individuals, and include protective elements like suicide prevention helpline information (Sumner et al., 2020). Several studies have found that the growing prominence of such guidelines has generally improved suicide news reporting, and that modifications made to suicide news reporting practices so that they better align with such guidelines has reduced risks of Werther effects (Niederkrotenthaler et al., 2010; Niederkrotenthaler et al., 2009). In Australia, for example, implementing media guidelines aligned with an 81% reduction in suicide rates (Niederkrotenthaler & Sonneck, 2007). However, while some studies have indicated a relationship between adherence to media reporting guidelines and decreases in population-level suicidal behaviours, other studies have questioned this relationship (Williams & Witte, 2018; Pirkis & Blood, 2001; Pirkis et al., 2006). For example, recent studies assessing the fidelity between suicide news stories and media reporting guidelines in Canada found that many Canadian articles on actor Robin Williams' suicide adhered to the media reporting guidelines (Creed & Whitlet, 2017). However, despite high fidelity, there was a 16% increase in suicide rates in Canada in the month following Williams' suicide (Whitley et al., 2019). Another study analyzing American articles on Williams' suicide similarly found a lower fidelity rate (22%) but observed a lower rise in suicide rates compared to Canada at the time (Carmichael & Whitley, 2019). Moreover, an extensive content analysis of Canadian suicide media coverage, assessing 6,367 suicide

stories, found that most of these stories were contrary to the media reporting guidelines, and that such guideline violations were often unrelated to increased suicide rates (Sinyor et al., 2018). These findings challenge the hypothesized efficacy of the media reporting guidelines, as adherence to the guidelines did not seem to correlate with suicide rates. Such inconsistencies within the literature supporting the efficacy of the media reporting guidelines in addressing contagion or the Werther effect may act as a barrier for some journalists to adhere to such guideline recommendations (Niederkrotenthaler & Stack, 2017; Niederkrotenthaler et al., 2010; Sinyor et al., 2018; Stack, 2005).

Another potential barrier to adherence to these guidelines is the difficulty for some journalists to adapt them into their journalism practice (Markiewitz et al., 2020). It is argued that current media reporting guidelines must be more pragmatic and integral to journalists' news work (Duncan & Luce, 2022). Duncan and Luce (2020) further argue that to address this best, an alternative model for responsible suicide reporting (RSR), which embeds media reporting guideline recommendations within journalistic practices, should be adopted. The RSR accounts for the common barriers to adherence to the media reporting guidelines related to journalism work, which include lack of awareness, reluctance to adhere to guidelines, difficulties in applying them throughout the day, tight deadlines, and increasing amounts of work due to understaffing.

Duncan and Luce (2022) argue that due to their models capacity to consider the internal and external influences on storytelling in the news process, it can act as an additional tool alongside the media reporting guidelines to guide journalists toward adherence to guideline recommendations. They additionally argue that embedding this model in journalism education or vocational training would be an effective means to help improve adherence to media reporting guidelines within the newsroom. Thus, alongside conducting more research investigating the relevance of the media reporting guidelines to media professionals and news media organizations, adapting current guideline recommendations to better accommodate for journalism practices may similarly improve adherence to the media reporting guidelines.

Moreover, in addition to varied adherence to media reporting guidelines amongst journalists, implementation of the guidelines has also varied across countries (Chandra et al., 2014). There is a significant disparity in the quality of suicide news reporting between "developing" and "developed" countries. For example, while high-income countries like Australia and Switzerland have, in general, successfully implemented their respective guidelines, sensible suicide news reporting remains lacking in low- to middle-income countries (Vijayakumar, 2004). Such findings highlight the need for more research on suicide news reporting practices within these countries. A region of particular interest is the Southeast

Asian (SEA) region, which includes eleven of the classified low-income countries (Arafat et al., 2020). Although the World Health Organization cautions against interpreting suicide statistics from SEA countries due to availability and quality issues, such countries seem to contribute significantly to global suicide rates (Vijayakumar, 2018).

Suicide News Reporting in Malaysia

Complex interactions between cultural, socioeconomic, and religious factors often influence suicide in the SEA region. Given the multifaceted nature of suicide ideation in this region, it is argued that prevention efforts should go beyond improving access to mental health services and should instead prioritize social and public health initiatives, such as promoting sensible suicide news reporting (Vijayakumar, 2018). However, there are several challenges to researching and implementing media reporting guidelines for suicide news in SEA countries. These challenges include the lack of reliable suicide statistics, limited collaboration between media organizations and mental health professionals, low health literacy leading to sensationalized reporting, and a lack of motivation from legislative and political bodies to enforce media reporting guidelines (Chen et al., 2012). Such difficulties in promoting sensible reporting from countries in this region may elicit tendencies to utilize established research from Western

countries to better inform preventative efforts in this region. However, the economic and sociocultural differences between Western countries and SEA countries make it unlikely that prevention programs from the West will apply to the SEA region (Rutz, 2004). Therefore, increased research explicitly focusing on suicide news reporting in SEA countries is necessary (Menon et al., 2022).

Although studies on suicide reporting from the SEA region are pretty limited (Chandra et al., 2014) — it is argued that the implementation of any media reporting guideline in SEA countries has been problematic thus far (Arafat et al., 2019; Arafat et al., 2020; Ayub et al., 2022; Fu et al., 2011; Menon et al., 2020; Menon et al., 2022; Nisa et al., 2020) — previous research has identified common breaches of media reporting guidelines, such as prominently placing suicide reports on front pages, mentioning suicide in report headlines, reporting personal details, describing the method of suicide, implying monocausal explanations for suicide, and mentioning a suicide note as the most common breaches in media reporting within the SEA region (Arafat et al., 2020). These findings are consistent with research showing that Asian countries, in general, tend to publish more graphic, explicit, and simplistic suicide news reports compared to Western countries (Beautrais et al., 2008). As such, based on the current literature, it is argued that 1) there is a lack of research concerning the identification of the conventional

suicide news reporting practices in SEA countries, and 2) there is a need to acknowledge and identify areas of improvement within suicide news reporting practices in SEA countries. Concerning the latter, there are differences in media regulations, reporting quality, and adherence to media reporting guidelines across countries in the SEA region (Ayub et al., 2022). Thus, it is argued that studying suicide news reporting within particular countries from this region would hold greater significance than examining data from a group of countries in the same region.

A country within the SEA region that requires more research on suicide risk factors and preventative measures, such as the implementation of media reporting guidelines, is Malaysia. The precise assessment of the suicide issue in Malaysia is challenging due to the multitude of data sources available (Lew et al., 2022). To address this issue, a national suicide registry was established, under the guidance of the Ministry of Health, in 2007. The primary objectives for this registry were twofold: firstly, to ascertain the prevalence of suicide in Malaysia and, secondly, to explore the most relevant risk factors for suicide in Malaysia (Hayati & Kamarul, 2008). Despite this government-led initiative, however, suicide statistics in Malaysia continued to be considered unreliable (Lew et al., 2022; Victor et al., 2019; Nazli et al., 2022). However, this general underreporting of suicides in Malaysia could be more closely

attributed to prevailing legal and cultural factors, rather than inherent issues with the suicide registry.

Malaysia has historically criminalized suicide attempts under a law known as Section 309 of the Penal Code. Empirical research indicates that the criminalization of suicide attempts generally has no significant association with reduced suicide rates (Khamis et al., 2022; Lew et al., 2022). Recent investigations have additionally found that such laws may be counterproductive and a barrier to help-seeking behaviours for vulnerable individuals (Thum et al., 2023). The criminalization of suicide in Malaysia specifically has been found to contribute to the social stigma surrounding suicidal behaviours in the country, and the limited access to necessary medical and psychological treatment for individuals within Malaysia vulnerable to suicidal behaviours (Saha & Debanjan, 2022). Attitudes toward suicide and the capacity for vulnerable individuals to seek help within the country have, therefore, been deeply intertwined with this law. As such, suicide prevention advocates had been calling for its abolishment for years (Ping & Panirselvam, 2019). The recent decriminalization of suicide in Malaysia would therefore suggest a positive shift toward suicide prevention. The decriminalization of suicide is argued to facilitate better access to mental health treatment for vulnerable individual's in Malaysia and increased responsible and productive discussions surrounding suicide (Thum et al., 2023). However, the current study was not

conducted when the law to decriminalize suicide had been passed. Thus, the impact of decriminalizing suicide in Malaysia on suicide discussions within the context of suicide news reporting was not examined in the current study. Despite this, the implications of this law and its decriminalization on suicide discussions and attitudes in Malaysia remain essential.

Additional factors influencing discussions and attitudes toward suicide in Malaysia include factors associated with the religious and cultural context of the country (Siau et al., 2021). Past studies have found, for example, that Muslims in Malaysia hold strong taboos against suicide, while Chinese-Malaysian cultural values may allow suicide in certain situations (Foo et al., 2014). Malaysia's complex religious and cultural context needs to be considered when addressing the suicide issue, as such factors may also play a significant role in how suicidal behaviours appear in Malaysia. One study, for example, found a consistent pattern of higher rates of attempted suicide and suicide for the Indian population in Malaysia compared to another ethnocultural group in Malaysia, which could be attributed to the religious and cultural differences between these groups (Morris & Maniam, 2001). Therefore, the complex interplay of cultural and religious factors in Malaysia necessitates comprehensive research on prevention strategies which consider such factors.

Various suicide prevention strategies have been proposed to address the complex cultural and religious factors within the country. Maniam and colleagues (2013) advocated for a targeted approach to suicide prevention in Malaysia, involving the identification of particularly vulnerable population segments and tailoring preventive efforts towards these groups. For example, they proposed implementing public education and awareness campaigns focusing on utilizing specific vernacular languages to effectively reach specific ethnic minority communities. Additionally, they recommended training primary care physicians and other gatekeepers to promptly recognize symptoms of depression and provide appropriate treatment, particularly for individuals within ethnic groups that are associated with higher rates of suicide. Furthermore, they emphasized the importance of concerted efforts to restrict access to suicide methods more commonly favoured by particular communities. Thus, although the decriminalization of suicide in Malaysia was a legislative milestone that is likely to help cut down the undue social stigma related to suicidal behaviours, it is clear that additional practical suicide prevention efforts at the population level which acknowledge the multidimensional nature of suicidal behaviours in Malaysia is needed (Thum et al., 2023). A suicide prevention strategy that could address the complex and multidimensional nature of suicide in Malaysia is the promotion of safe suicide news reporting.

Suicide news media reporting guidelines tailored for Malaysian journalists were developed through collaborative efforts between local journalists, the Ministry of Health, and the Ministry of Education in 2004 (Fong et al., 2018). However, despite the development of these guidelines, their practical implementation by news media organizations has been lacking. Several studies have analysed Malaysian suicide news reports and identified standard practices contradicting media reporting guidelines. For instance, a study by Fong (2021) analyzing suicide news reports from one of Malaysia's most prominent news media organizations revealed a heavy emphasis on objective facts in their suicide news reports, often portraying suicide events negatively. Similarly, an investigation by Fong et al. (2018) of local online Malaysian newspapers found articles on suicide-related events to explicitly and consistently include details about suicide methods, while providing limited information on helplines or other protective resources. A review conducted by Victor et al. (2019) additionally found that many suicide-related articles from local Malaysian newspapers identified the individuals involved and the methods used in suicide events, which are characteristics that are unaligned with local media reporting guidelines. Such findings indicate suicide news reporting in Malaysia to be generally unsafe, in accordance with media reporting guidelines. However, it is noteworthy that recent research by Heng et al. (2019) challenges this prevailing notion, revealing that leading Malay language newspapers reported

suicide cases in a manner that avoided sensationalism and unnecessary details. Thus, while the current literature supports that suicide news reporting in Malaysia does not generally adhere to media reporting guidelines, the relationship between suicide news reporting and guideline adherence appears to be more nuanced, which warrants further investigation and research on this topic.

The Qualitative Approach

The literature on adherence to media reporting guidelines in suicide news reporting is argued to benefit from qualitative studies exploring journalists' attitudes toward guideline recommendations (Markiewitz et al., 2020). Only a few studies have directly examined journalists' attitudes toward these recommendations and their reasons for adhering to or deviating from them (Collings & Kemp, 2010). Journalists worldwide have shown mixed responses to media reporting guidelines, ranging from acceptance to confusion, resistance, and backlash (Gandy & Terrion, 2015). Although journalists recognize the risks of reporting suicide to vulnerable individuals and its potential to increase stigma and pain for those bereaved by a suicide event, many still bend or break essential aspects of the media reporting guidelines (Yaqub et al., 2020). The tension arises from journalists perceiving reporting recommendations as conflicting with their responsibility to "tell the whole story" and provide accurate accounts (Gandy & Terrion,

2015). Some journalists argue that suppressing information contradicts their core journalistic values of truth-telling and thorough disclosure (Schudson, 2015). They believe that detail and depth are crucial for shedding light on important public issues. Thus, avoiding particular details as recommended by media reporting guidelines may hinder their capacity to align with such beliefs (Gandy & Terrion, 2015). As previously mentioned, the RSR could be implemented within journalism education and vocational training as a means to address this issue of adapting the guideline recommendations to journalism practice. The RSR is argued to have the capacity to facilitate increased adherence to media reporting guidelines by journalists due to its inclusion of the typology of a suicide story for journalists, its inclusion of a set of rules that journalists can easily apply, and the inclusion of a standard of moderation that journalists can easily use to critically reflect on their suicide news reporting (Duncan & Luce, 2022). By aligning media reporting guidelines with journalism practice and values, adherence to such guidelines may see improvements.

However, journalists additionally question whether the guidelines can actually help reduce contagion, given the correlational nature of the research (Gandy & Terrion, 2015). Stack, 2020 echoes these claims in finding that many study findings on the relationship between suicide news reporting and suicidal behaviours at the population level do not support an imitative or contagion effect. This

finding, however, contradicts recent reviews that support an association between nonfictional media presentations of suicide in newspapers or television and actual suicides (Ribeiro & Granado, 2022). Such disparity in the current literature could be attributed to the quantitative research approach that is typically employed by studies within this research area. Although examining 'factual' data on suicide rates and adherence to media reporting guidelines can be beneficial, this approach may be limited due to the inability to determine whether individuals who died by suicide following media coverage of a suicide event was actually exposed to such media (Niederkrotenthaler et al., 2014). Moreover, comparatively, there is a lack of research that employs a qualitative approach to examine the relevance and impact of the media reporting guidelines (Markiewitz et al., 2020). It is argued that qualitative research methods are best used to explore experiences, meaning, and perspectives from individuals relevant to a particular question or topic (Hammarberg et al., 2016). The inconsistent and correlational nature of the current literature on contagion may, therefore, suggest that to better examine and portray the utility of media reporting guidelines to media professionals, it may be essential to go beyond quantitative data-driven research and to qualitatively explore the impact of such guidelines on media professionals and other individuals that the guidelines are relevant to. Ng and colleagues (2021) demonstrate the utility of this approach in their study evaluating perceptions toward Malaysian suicide news reporting by

Malaysian media professionals, individuals with lived experience, and mental health professionals. They found that most participants from these three 'stakeholder' groups found suicide news reporting in Malaysia to be unsafe and, additionally, elucidated potential factors contributing to such unsafe suicide news reporting. Such findings support that engagement with various stakeholder groups is essential to promote sustainable improvements in guideline adherence. Adopting a qualitative approach to research on this topic may facilitate this.

In addition to exploring general attitudes toward suicide news reporting in Malaysia by relevant stakeholder groups and revealing potential factors contributing to the current nature of suicide news reporting in Malaysia, Ng and colleagues (2021) also revealed a mounting concern regarding unsafe suicide news reporting on social media platforms. This finding indicates a gap in the literature on suicide news reporting in Malaysia, as there is limited research on online news articles and social media content related to suicide news reporting in Malaysia.

Suicide News Reporting on Social Media

"Social media platforms" can fundamentally be defined as either "social network sites" or "social networking sites." Although the fundamental function of both definitions can co-exist, the distinction between the two is that the primary purpose of the former is to

enable users to curate and publicize their existing social networks (Such as Instagram), while the primary purpose of the latter is to create new networks or to make new connections (Such as LinkedIn). For the current study, "social media platforms" will refer to the former "social network sites." Thus, social media platforms, in the context of this study, include those that allow users to 1) construct a profile that others can view, 2) publicize a list of users with whom they are connected, and 3) view and interact with their network as well as those that are outside of their network (Boyd & Ellison, 2007). However, although this definition articulates the components of social media platforms, it does not address how users typically interact with such platforms, especially in the context of suicide news reporting.

Understanding how social media users utilize social media platforms can be challenging due to the blending of interpersonal and mass-mediated communication within these platforms. For instance, some users may engage in limited discussions akin to small-scale interpersonal communication. In contrast, other users may post information in public spaces tailored to specific user networks, mirroring mass-mediated communication trends (Brake, 2012). It is argued that communication on social media, especially for social media accounts associated with news media organizations, leans towards combining these two communication features, termed Telelogic communication, where posts are inherently

accessible to an unspecified and boundless audience. This interaction is described as "Telelogic" because it combines elements of mass-mediated communication, such as achieving a broad audience reach, with interpersonal communication aspects, such as facilitating easy responses from the reached individuals (Vicari, 2014). The emergence of such distinctive communication dynamics within the social media landscape is argued to have triggered significant shifts in the operations of the news industry, leading to reconfigurations in journalistic norms and practices (Zayani, 2021).

The social media landscape has empowered audiences of news media organizations to actively engage in news dissemination, through observing, selecting, filtering, distributing, and interpreting the news events shared on these platforms by these organizations (Moreno & Sepulveda, 2021). Unlike the traditional twentieth-century model of news reporting, where news media organizations controlled news production and dissemination, the emergence of social media fostered a more interactive and communal media ecosystem (Nielsen et al., 2016). Facilitated by social media platforms, the audience can now actively collaborate with news media organizations in producing and disseminating news content, rather than passively consuming such content (Loosen & Schmidt, 2012). Therefore, social media use has opened up new possibilities for audience engagement and involvement, potentially reshaping

the dynamics of information dissemination and consumption (Zayani, 2021).

Research examining news reporting on social media is therefore highly relevant, especially for news media organizations wishing to better navigate this new landscape. The relevance of research investigating suicide news reporting on social media, particularly, is exemplified by the growing endeavours to address discussions about suicide within this digital space (Robinson et al., 2018). Numerous initiatives have been proposed to reduce the accessibility of information regarding suicide methods on social media and to promote suicide prevention campaigns through these platforms (Gunnell et al., 2015). It is argued that social media's distinct capability to reach a broad and diverse audience presents opportunities for establishing a secure and non-judgmental space for suicide prevention (Robinson et al., 2018). The growing attention towards social media for suicide prevention is additionally driven by the recognition of the potential harm it may inadvertently foster among its users (Turecki et al., 2019). This heightened awareness of the potential benefits and harm of suicide discussions on social media highlights the importance of carefully addressing suicide-related topics on these platforms, to ensure they serve as safe and constructive spaces for discussions and support.

Studies investigating current suicide news reporting practices on social media, however, have generally found suicide news-related

social media content to contradict these goals (Edwards et al., 2020). For example, an Australian study analyzing suicide-related news articles posted on Facebook revealed the consistent presence of harmful elements, including publicizing the names of individuals involved in the suicide event, describing suicide methods and locations, and prominently featuring "suicide" in the headlines (Sumner et al., 2020). A similar study on suicide news reporting on popular social media platforms in China discovered that many suicide news reports on these platforms similarly contained harmful elements, such as unnecessary descriptions of suicide events and disclosure of private information, with limited helpful aspects, such as guidance towards suicide support programs (Lai et al., 2021). Additionally, investigations into adherence to media reporting guidelines by online suicide reports in the UK similarly indicated a lack of protective information and an excess in details on suicide methods (Utterson et al., 2017). Contrarily, however, a study by Edwards (2020) found that online suicide news reports from Australian news media organizations were broadly compliant with local suicide media reporting guidelines, with the only persistent harmful element being the prominent use of "suicide" in headlines. Such findings suggest that, although suicide news shared on social media has been found to be generally poor in adherence to the media reporting guidelines and may therefore be unsafe, there is a clear need for more research on this topic (Corbitt-Hall et al., 2016).

In addition to the need for more research on suicide news reporting on social media, it is also important to acknowledge and address the lack of clarity on who is generally responsible for suicide news reporting on social media. As such uncertainties may hinder the valorisation of such research findings. While news reports published on online news portals or physical newspaper publications may be evidently authored by journalists, determining responsibility for suicide news reports directly published on social media platforms can be more challenging. Social media has introduced a new environment for news dissemination, with social media managers, rather than journalists, playing a crucial role in disseminating and creating news content on social media platforms (Shade & Jacobson, 2015). Social media managers are not journalists in practice. Instead, they are digital creators and producers at the forefront of social media management, driven by knowledge of the digital space and its trends rather than journalistic values. (Moulard et al., 2015). As a newly emerging profession, there needs to be more research examining social media management as an occupation and what role they play in suicide news reporting on social media platforms. The current literature argues that social media managers are primarily concerned with engagement from current and unknown future audiences (Fahey et al., 2018). Thus, as social media managers are concerned with audience engagement, research examining audience sentiments toward suicide news-related social media content may

be a relevant research area to investigate suicide news reporting on social media.

Research examining audience sentiments on social media platforms may find it beneficial to examine user-generated content (UGC). UGC is data, information, or media originating from users of a particular platform, such as Facebook, Instagram, or otherwise (Krumm et al., 2008). It is argued that UGC can inform organizations of audience sentiments toward products and can additionally influence attitudes toward the organizations themselves (Chevalier & Mayzlin, 2006; Luca, 2016; Kim & Johnson, 2016). Thus, studies utilising UGC to investigate audience sentiments toward suicide news reporting on social media could produce findings relevant to news media organizations, as well as contribute to the current literature. However, prior studies on audience sentiments toward suicide news-related content on social media have not often examined UGC and have instead predominantly utilized structured data. Sumner and colleagues (2020), for example, examined the relationship between levels of adherence to media reporting guidelines in suicide reports shared on Facebook and the quantity of reshares and "likes" to investigate how adherence affects audience engagement. Although such data are undeniably valuable, as such studies can elucidate the importance of examining audience sentiments toward suicide news reports on social media to investigate the relevance of adherence to media reporting guidelines, it is argued that research

examining unstructured, open-ended data, such as UGC, can provide additional valuable insights into this relationship (Fahey et al., 2018). As such, the current study examined post captions, as well as user generated comments, associated with suicide news-focused posts on Instagram by Malaysian news media organizations, to gain a deeper understanding of audience engagement in this context.

Why Instagram?

Instagram's uniqueness lies in its emphasis on visual sharing, making it attractive for users seeking self-expression through photos, videos and mass communication through text (Moreau, 2018; Moon et al., 2016). Instagram has grown to be one of the most widely used social media platforms since its launch in 2010, and its significance as a valuable data source for social researchers has been highlighted (Boy & Uitermark, 2016; Chaffey, 2016). Zhan and colleagues (2018), for example, describe the growing relevance of Instagram and the wealth of data available from the platform as valid justifications for its suitability for research. However, Tufekci (2014) points out that this platform has been relatively understudied. According to Pittman and Reich (2016), neglecting Instagram in social media research could hinder understanding user behaviours, as photo-oriented platforms like Instagram may provide more valuable insights into user sentiments compared to text-based social media platforms, like Twitter. Furthermore, considering the prevalence of suicidal self-injurious behaviour among adolescents

and young adults, and the prevalence of this age group within the Instagram user demographic, studying Instagram's role becomes particularly relevant in the context of suicide news reporting on social media (Thum et al., 2023). For these reasons, the current study focused on collecting social media data from Instagram.

Theoretical Framework

In the current landscape of an ever-expanding and increasingly partisan media environment, news media organizations have become aware of the challenge that their content may need to reach more people to generate revenue or substantially impact public policy (Nelson, 2021). The legitimacy acquired by online news portals, along with the influential role of social media platforms in promoting content through algorithms and facilitating its circulation via "liking" or sharing, has had detrimental effects on the overall sustainability of the journalism industry and profession (Franklin, 2014).

As mentioned, as a result of this shift toward the online or social media landscape, news media organizations have actively pursued 'audience engagement' to address revenue and impact issues (Belair-Gagnon et al., 2019). Unlike traditional approaches where news organizations understood their audiences through research and feedback, it is argued that they must now involve the audience directly in the reporting process (Carlson, 2018). The audience has

become an ever-growing defining characteristic of the digital journalism era, and news media organizations must learn to pursue their participation and engagement (Kramp & Loosen, 2018). 'Audience' in news production can be defined as individuals who consume the news, while engagement captures how people devote attention to and interact with something. Audience engagement thus concerns any form of news consumption or participation (Djerf-Pierre et al., 2019). Traditionally, news media organizations have relied on popularity metrics such as 'clicks' or 'likes' to measure audience engagement. However, recent research argues that this metric may not accurately reflect audience engagement. As the media landscape evolves, news outlets must explore more comprehensive and nuanced approaches to understanding and measuring audience engagement (Nelson, 2021).

Jacob Ørmen's (2015) conceptualization of audience engagement suggests a more encompassing definition; he defines audience engagement as "how people attend to information about public concerns, understand intricate issues, and discuss them with each other." Nelson (2021) distinguishes this concept, proposing that 'audience engagement' should be categorized into reception-oriented and production-oriented definitions. Reception-oriented audience engagement focuses on how the audience responds to news content, such as positive reactions, tweeting, or commenting. This definition is particularly relevant for profit-oriented news

media organizations that view news as a commodity and their audience as customers, where maintaining a positive relationship with the audience and their perceptions toward the organization (reception-oriented audience engagement) becomes crucial.

On the other hand, production-oriented audience engagement concentrates on producing news content that caters to the audience. Production-oriented audience engagement has been argued to be more relevant to non-profit news media organizations, mainly because they prioritize measuring their success by how inclusive and empowering their reporting is to the audience rather than focusing on advertisement revenue (Nelson, 2021). However, with the rise of social media, news media organizations now have the potential to engage their audience as empowered networks. As mentioned, social media fosters a participatory media environment, whereby the traditional divide between media producers and consumers dissolves, giving way to interactive practices and direct audience involvement in journalism practices and norms (Zayani, 2021). The current media environment reflects a shift towards media consumers as active "producers" (Bruns, 2008) who not only contribute information and post commentaries but also produce and distribute content that could be potentially associated with news media organizations (Hermida et al., 2011). In this model, audience members could act as ambassadors for the organization by actively disseminating their news content (Loosen & Schmidt, 2012).

Hermida et al. (2011) found that news consumers were more likely to receive news content from people they knew than from news organizations or journalists directly. This supports that the audience can play a critical role in news dissemination for news media organizations. Thus, production-oriented audience engagement becomes significant for profit-oriented and non-profit news media organizations, as actively involving the audience in news production may be essential for fostering reception-oriented audience engagement.

Framing theory

With the importance of audience engagement in mind, this study draws on Framing Theory to explain and underscore the importance for Malaysian news media organizations to consider how they present and discuss suicide topics on Instagram. Framing theory argues that news media organizations can significantly influence an audience's understanding of a topic and their subsequent discussions of such topics (D'Angelo, 2019). According to Framing theory, (often small) changes in the presentation of an issue or an event within a communicating text can produce (sometimes significant) changes in opinion about said issue or event within the population interacting with the text (Chong & Druckman, 2007). The aspects of a communicating text that can manipulate the meaning of an event or the interpretation of an issue are defined as "frames in communication" (Frames) (Chong & Druckman, 2007). Frames are

essential parts of a text that refer to certain aspects of an event or issue that have been emphasized in salience -- that is, they have been made more noticeable, meaningful, or memorable (De Vreese, 2005). For example, if a news article on a planned protest against a refugee policy emphasizes an interpretation that the protest is "xenophobic," then this text promotes a "xenophobia" frame. However, if, instead, this article emphasizes the interpretation that this planned protest is "economically relevant," then the "economic relevance" frame is invoked in the audience (Lecheler & De Vreese, 2019). In the context of news production, a particular frame can be promoted through alterations in several news features, such as the headline, kickers, subheads, photographs, and photo captions (Tankard, 2001). Promoting frames to either intentionally or unintentionally promote an associative connection between a topic and a particular consideration relevant to its definition, implications, or treatment is termed "Framing" (Tewksbury & Scheufele, 2019).

Framing has been found to influence how audiences understand and discuss an issue immensely. Tewksbury and colleagues (2019), for example, found that framing an article on a local policy issue in a way that either reflected an environmental or economic concern influenced whether readers understood the issue as an environmental or economic issue, despite the contents of the article remaining the same throughout any alterations. Different frames

can evoke distinct interpretations of an event or issue, influencing audience understanding and discussion. Therefore, in line with the current study, it is argued that how a news media organization frames a suicide news report could be a means to attend to its production-oriented audience engagement. This study aims to investigate the impact of adhering to suicide reporting guidelines on reception and production-oriented audience engagement in suicide news-focused Instagram posts by examining user responses. Framing theory will serve as the framework for analyzing the effects of media guideline adherence on user responses in this study.

Framing theory has been referred to in past studies analyzing the effects of individual attributes and contextual factors on political attitudes, the effects of sociocognitive processes on perceptions toward immigration, and the persuasive effects of emotion (Druckman, 2004; Igartua & Cheng, 2009; van't Riet et al., 2010). In Malaysia, a study by Victor et al. (2019) similarly drew on framing theory in their quantitative content analysis of suicide news articles published in a popular Malaysian English-language newspaper. Victor et al. (2019) identified several news frames that they found to be common within the articles that they analysed, namely:

1. Statistics -- The article included either statistics, figures, number of incidences, or demographics relevant to suicide events in Malaysia.

2. Strategies -- The article promoted specific strategies to prevent suicide or improve mental health.

3. Causes/tendencies -- The articles discussed (often biased) reasons for an incident taking place.

4. Mental disorder -- The article discussed potential mental health factors involved in the incident.

5. Criminalisation -- The article discussed suicide as a criminal offense and the news related to this law.

6. Method of suicide -- The article reported the methods used in a suicide event.

Their findings found the most salient frame to be the method of suicide, which has been previously described as one of the characteristics of "inappropriate" suicide news reporting. This would suggest that the frames used within suicide news-related articles in Malaysia could be closely related to levels of adherence to media reporting guidelines. However, there is a current lack of research concerning this topic. Investigations into how suicide news is framed on social media platforms, whether such news frames align with existing media guidelines, and whether adherence impacts audience attitudes toward the organization and the topic of suicide, in general, are argued to be very relevant and lacking.

Current Study

The current study aimed to investigate audience sentiments toward suicide-related news posted by Malaysian media organizations on Instagram. Data mining procedures were utilized to gather Instagram posts from ten prominent Malaysian news Instagram accounts within the time frame of three years, from the time of data collection. After filtering through all the posts to exclude non-relevant Instagram posts, i.e., posts irrelevant to suicide news, sentiment analyses and content analyses were conducted on the posts and their associated comments. The current study aimed to explore the following research questions.

RQ1: What are the standard reporting practices in suicide news-focused posts on Malaysian news Instagram accounts?

RQ2: Is there a relationship between levels of adherence to media reporting guidelines in suicide-related news posted by Malaysian media organizations on Instagram and user sentiments toward suicide?

RQ3: Is there a relationship between levels of adherence to media reporting guidelines in suicide-related news posted by Malaysian media organizations on Instagram and user sentiments toward such content?

Methodology

Sample

A purposive sampling technique was utilized to obtain a representative sample of Instagram accounts officially affiliated with Malaysian news media organizations. The selection procedure encompassed the utilization of the search phrase "Top news Instagram accounts Malaysia" on two widely employed online search engines: Google and Bing. This approach was adopted due to its prior application in a similar study that examined Instagram content through content analysis (Cohen et al., 2019). Data collection occurred in February 2022 and was carried out using a personal computer. Moreover, a private browser with a cleared cache was used to mitigate the impact of individual browsing history and cookies on search outcomes.

Following the method employed by Boepple et al. (2016), the links were derived from the initial search results page, which usually presents the most pertinent and frequently visited web pages (Hindman et al., 2003). Thirty distinct links were generated as a result of the search inquiries. Subsequently, these links underwent a filtering process to eliminate any websites that did not align with the study's objectives, i.e., websites were excluded if they did not refer to official Instagram accounts of prominent Malaysian news media organizations. As a result, a final sample of nine links was

acquired. Including an Instagram account in the final sample was determined by three criteria:

1. The account was required to demonstrate popularity, denoted by a minimum of 50,000 followers.

2. The account needed to demonstrate an adequate activity level, with a minimum of 100 posts.

3. The account needed to be associated with a Malaysian news media organization to ensure alignment with the study's focus.

These criteria for inclusion were modelled after the method utilized by Cohen and colleagues (2019).

Following the sampling process, ten Instagram accounts were identified, each officially affiliated with an individual Malaysian news media organization. These ten accounts comprised the conclusive sample pool, slated for subsequent analysis, and other relevant methods to accomplish the study objectives.

Data Extraction

To achieve the study objectives, relevant posts from the selected ten Instagram accounts were sampled through data mining procedures, facilitated by the cloud-based data extraction program Octoparse. Omitted from this extraction were Instagram stories and reels, owing to limitations within Octoparse that restricted access to comments associated with such content.

Data mining is an effective method for examining sentiments from social media platforms, given its capacity to amass and process substantial volumes of text-based information (Lim et al., 2018). Specifically, the current study employed a distinct data mining technique called "web-scraping." (Glez-Pena et al., 2014).

Web scraping constitutes a methodical approach involving extracting and integrating targeted online content into a unified file format, facilitating subsequent analysis. This procedure requires the development of a software agent capable of emulating the browsing interaction observed between a user and a web server, thereby proficiently extracting pertinent data from distinct elements within an HTML document (Glez-Pena et al., 2014). The subsequent section will delineate the fundamental stages in formulating a web scraper to effectively gather Instagram posts and comments from Instagram accounts linked to Malaysian news media organizations.

Building the Web Scraper

The open-platform software Octoparse was utilized to construct a specialized web scraper attuned to the requisites of the ongoing investigation. Instead of employing a pre-existing Instagram web scraper, the study developed a custom web scraper to gather posts within a three-year timeframe, a temporal range previously employed in studies investigating online Malaysian suicide news reports (Johari et al., 2017). A custom web scraper was developed as

the web scrapers readily available at the time of data collection could not extract data within the precise timeframe required for this study. Consequently, Octoparse, a dependable and user-friendly software demanding no extensive programming expertise, was selected as the designated tool for developing the web scraper.

The study aimed to achieve two objectives: 1) examine Instagram posts from Malaysian news media organizations relevant to suicide news reporting, and 2) analyse the comments associated with these posts. To address both aims, two distinct types of web scrapers were developed. The following section outlines the key steps involved in constructing a web scraper through Octoparse to fulfil the first objective:

1. Site Access: The process began with entering the URL of each selected Instagram account's main page into the Octoparse interface. Each URL was individually copied into the search bar, developing ten separate web scrapers, one for each Instagram account. Octoparse primarily communicated with the target web page, retrieving an interactive HTML document.

2. HTML Parsing and Contents Extraction: Once the HTML document was obtained, the web scraper followed a series of user-determined steps to extract the relevant content. The

following procedure was followed for each of the ten Instagram-posts web scrapers:

1. A "Click Item" module was placed within the workflow.

2. The HTML Xpath for the first post of the Instagram page was specified in the "Matching XPath" bar, instructing the program to click on the first post after loading the page.

3. A pagination module was added after the "Click Item" module, allowing the web scraper to scrape multiple pages within the HTML document. Within this module, two additional modules were placed to create a necessary "loop": the "Extract Data" module and the "Click to" module.

   1. The "Extract Data" module defined the elements extracted from the HTML document. The caption and post URL were extracted at this stage. Selecting the elements for extraction in Octoparse was done by simply highlighting the targeted elements in the program interface. The post URL can be found by highlighting the date below the number of likes within the post.

   2. The "Click to" module directed the web scraper to move to the next post after extracting the

relevant elements from the current post. The "next" arrow button was highlighted to achieve this. A timer was set within the options tab to ensure the web scraper mimicked human interaction with the HTML document, as Instagram's API imposed limitations on data mining for their posts.

4. This web scraper was executed for each of the ten Instagram accounts until a minimum of 1300 posts had been scraped, which generally equating to the average number of posts within three years.

3. Output Building: After completing the web scraping, Octoparse transformed the extracted content into a structured tabular format for further analysis and storage. The post captions and URLs were stored in a separate Excel sheet.

The posts to this study, containing keywords associated with suicide news reporting, were filtered from the gathered posts using the post captions. Keywords were obtained from existing literature on suicide news reporting in Malaysia and the general literature on the topic. For this study, the following keywords were used to determine whether a post was to be included in the subsequent data analysis; "suicide," "suicidal," "sudden death" (commonly used term for suicide death reports), "fell," "killed," "death," "bunuh diri" (Malay

for suicide), "mati" (Malay for death) (Victor et al., 2019). An Instagram post would therefore be excluded if the post did not include any of the above-mentioned keywords.

Additionally, the study considered content that discussed suicide news that did not involve a suicide death, reported suicide within health contexts or discussed suicide topics in commentary-style pieces. This follows suggestions by Ayub and colleagues (2022), who argued that such content should not be ignored in studies investigating the effects and characteristics of suicide news-related content. Moreover, Instagram stories and reels were not included, as Instagram stories do not allow users to view the comments made in response to a published story. Additionally, there were limitations in obtaining the comments associated with an Instagram reel using the web scraper created for this study.

Once all the relevant posts were gathered, their associated comments needed to be additionally extracted using another type of web scraper. The comments associated with the posts were analysed to determine audience sentiments towards the posts and audience sentiments toward suicide topics in general. The steps in constructing this web scraper are detailed below:

1. HTML Parsing and Contents Extraction (Comments): The collected URLs were placed in a separate Excel file. A new

project was created, and the "Advanced Mode" was selected. This mode allowed for manual input of a list of URLs to be used in designing a web scraper. The following steps were followed to design a web scraper suitable for the study's objectives:

1. A "Loop URLs" module was placed within the workflow, enabling the input of a list of URLs for the web scraper to reference.

2. Within the "Loop URLs" module, a "Go to Web Page" module was added to instruct the web scraper to load the page of the active URL in the "Loop URLs" module.

3. A "Click Item" module was placed to load all the comments onto the page before extracting any data. This was achieved by selecting the "Scroll down the page after it is loaded" option in the options tab and highlighting the "+" button at the bottom of the HTML page.

4. A "Loop" module followed, with an "Extract Data" module placed within it. The "Extract Data" module extracted the caption and each comment on the page, ensuring that the web scraper continuously scraped the available data until the end of the comments section.

2. Output Building: After completing the web scraping, Octoparse transformed the extracted content into a structured tabular format for further analysis and storage.

The data gathered from the relevant posts and associated comments were then combined into a tabular format within Excel for subsequent coding procedures.

Categorising Posts Based on Levels of Adherence

Aligned with the objectives of the present study, a scoring procedure was employed to assess the adherence levels of each of the gathered posts to the media reporting guidelines. The coding framework developed by Edwards et al. (2020) was utilized to evaluate each post based on nine operationalized items, as follows:

1. Inclusion of inappropriate or sensationalist language (e.g., "successful suicide," "commit suicide," "failed suicide," "political suicide").
2. Use of the word "suicide" in the headline.
3. Presence of visual media depicting the suicide scene, memorial, funeral, precise location, or method/means.
4. Inclusion of a detailed discussion of the method/means used (e.g., steps involved, how means were obtained, exact locations).
5. Disclosure of specific details from a suicide note.

6. Implying that suicide is spontaneous or due to a single event, as opposed to exploring a range of contributing factors.

7. Provision of information about help-seeking or services.

8. Incorporation of statements about the bereaved.

9. Promotion of public or online memorials.

Each post was individually coded against these nine items to determine their levels of adherence to media reporting guidelines. All items, except Item 7 about help-seeking information, were reverse coded (0 = yes, 1 = no). Subsequently, a total score ranging from 0 to 9 was calculated for each post. This score represented the overall degree of adherence to media guidelines, with 0 indicating no adherence and 9 indicating absolute adherence to the media reporting guidelines. Articles were dichotomized into two groups based on the median compliance level: "Low Adherence Posts" and "High Adherence Posts." For this study, posts scoring below six were categorized as "Low Adherence Posts," while those scoring six and above were designated as "High Adherence Posts."

Moreover, comments associated with "High Adherence Posts" were labelled as "High Adherence Comments," and comments associated with "Low Adherence Posts" were designated as "Low Adherence Comments." These four groups of textual data were then analysed separately for subsequent data analysis components.

The Number of Likes

Users can demonstrate endorsement and interaction by "liking" photos, a prevalent activity on Instagram. The number of likes a photo receives is prominently exhibited beneath each post, visible to one's social network, thus transforming it into a potential avenue for social affirmation and peer influence (Frison & Eggermont, 2017). Central to Instagram is the aspiration to amass more likes than others for a given post (Dumas et al., 2017; Sheldon & Bryant, 2016). This inclination is argued to be rooted in the inherent human tendency to cultivate supportive social networks and bonds to enrich one's well-being (Baumeister & Leary, 2017). Social media is generally perceived as a wellspring of feedback on social well-being, such as "likes" (Wohn et al., 2016). Earlier studies affirm this, as social media users have been found to generally view the like feature as a gauge of approval and popularity (Dumas et al., 2017; Sheldon & Bryant, 2016). Moreover, Nelson (2021) argues that media organizations can use features such as likes to gauge reception-oriented audience engagement.

Thus, the study additionally examined the relationship between adherence to media reporting guidelines in suicide-news-focused Instagram posts by Malaysian news media organizations and audience engagement, as expressed through likes. The number of likes for each post in the "High Adherence Posts" group and the "Low

Adherence Posts" group was collected to investigate this. A subsequent t-test then examined whether a statistically significant disparity existed in the average like counts between the two groups.

Content Analysis

As described by Elo and Kyngäs (2008), qualitative content analysis offers valuable insights by systematically examining textual or visual data to identify patterns, themes, and meanings. Over the years, the scope of content analysis has expanded to encompass formal communication elements and underlying significances (Mayring, 2015). Its strengths lie in its flexibility and adaptability across different research fields, allowing researchers to elucidate rich and nuanced understandings of complex data. However, as Hsieh and Shannon (2005) point out, the subjective nature of interpretation in qualitative content analysis can lead to potential biases and variations in analyses. Furthermore, condensing large volumes of data into manageable categories may oversimplify the original content, potentially leading to a lack of depth in data analysis. Nevertheless, when conducted rigorously and transparently, qualitative content analysis remains a powerful method for generating in-depth insights into human experiences and perspectives (Mayring, 2015; Steigleder, 2008). Thus, content analysis was chosen for this study due to its established dependability in extracting meaning from textual data.

This study used a process of categorizing textual data into distinct groups to uncover emergent themes. Themes represent patterns found directly or indirectly within the text data. These patterns manifest directly from the text data or indirectly through examining the directly identified "codes." A code serves as a label encapsulating fragments of textual data and is discernible from themes as they do not signify patterns (Weber, 1990). The coding process, encompassing the assembly of codes and themes, was meticulously documented in a coding dictionary, a crucial apparatus for arranging codes and themes used to ensure dependable coding (Poole & Folger, 1981).

The three distinct approaches to coding using a coding dictionary are the conventional, directed, and summative approaches, which principally differ in how initial themes and codes are developed. The directed approach involves formulating the initial coding dictionary rooted in preexisting theories and prior investigations, making it pertinent for studies that extend from established knowledge. In contrast, the traditional approach derives themes and codes by analyzing the data, enhancing comprehension of a familiar phenomenon. Finally, the summative approach constructs the coding dictionary by dissecting specific words or phrases within the text, which is valuable for scrutinizing particular terms within the content (Hsieh & Shannon, 2005; Kyngas & Vanhanen, 1999).

The current study combined elements from both the directed and conventional methodologies to conduct content analyses on the corpus of texts gathered from High Adherence and Low Adherence posts. Predetermined themes, such as "Sentiments" and "Frames," were identified based on the research questions and theoretical concepts related to suicide news reporting. Subsequently, pertinent subthemes were extracted from the textual data and systematically organized within the coding dictionary, which underwent continuous updates throughout the coding process. Each post, encompassing the caption and accompanying image, underwent an iterative coding process by a single researcher. This involved introducing new subthemes and eliminating irrelevant ones within the coding dictionary. As posts were segregated into "High Adherence Posts," "Low Adherence Posts," distinct content analyses were carried out for each category.

Past studies that utilized unstructured data to investigate the relationship between adherence to suicide reporting guidelines and user responses often relied on human review or content analysis involving double review, inter-rater reliability calculations, and structured processes to reconcile differences between two or more reviewers (Edwards et al., 2020; Sumner et al., 2020; McDonald et al., 2019), the current study employed only one coder to code all posts and comments. To mitigate the absence of inter-rater reliability, the focus was redirected toward ensuring consistency

over time. This strategy involved coding an unmarked version, of a previously coded document of text data during a subsequent stage of coding, after the initial coding process and then reconciling divergences between the two versions.

Sentiment Analysis

In tandem with the content analysis, sentiment analysis was conducted for both "High Adherence Comments" and "Low Adherence Comments." Sentiment analysis is a prominent method to extract and interpret a text's emotional tone and sentiments. (Mejova, 2009). This technique has primarily been used to monitor public sentiment and market research (Pang & Lee, 2008; Cambria & Hussain, 2012). This technique is precious for organizations to explore their consumers' opinions or reactions toward their products by reviewing their sentiments at either the document, sentence, or word/term levels (Taj & Girisha, 2021). However, its effectiveness is constrained when this analysis is automated through machine learning models, as it can face challenges in contextual understanding and subjectivity since sentiments can vary between individuals and contexts (Liu, 2012). Additionally, these models can often oversimplify sentiments and disregard nuances in tone or cultural variations (Kiritchenko & Mohammad, 2016; Hutto & Gilbert, 2014). In order to mitigate these limitations, the current study opted to conduct the sentiment

analysis manually, however, to remove the limitations associated with automated sentiment analysis.

The analysis conducted in this study aimed to reveal the emotional content embedded within the High Adherence comments and Low Adherence comments. The findings from this analysis would contribute to discussions on the interplay between the extent of adherence to media reporting guidelines in suicide-focus news posts by Malaysian media organizations on Instagram and user sentiments toward suicide (RQ2), as well as discussions on the relationship between adherence levels to media reporting guidelines and user sentiments toward such content (RQ3).

Voyant Tools Analysis

The web-based text reading and analysis platform, Voyant Tools, was utilized for additional sentiment analysis based on the corpus of text gathered. Voyant Tools has been recommended for scholarly research in digital humanities (Sampsel, 2018). The corpus of text was uploaded onto Voyant Tools to analyse data from posts, categorized as those exhibiting High Adherence and those exhibiting Low Adherence, as well as both associated Low Adherence and High Adherence comments. The use of Voyant Tools was particularly to examine the extent of alignment between prevalent news frames identified within captions of High Adherence posts and Low Adherence posts (as determined by the most frequently occurring

words in these captions) and the overarching sentiments expressed by users (as determined from the most frequently occurring words in High Adherence comments and Low Adherence comments). Consequently, this analysis was conducted to gather further valuable insights into the linguistic patterns and interconnections between the post content and audience responses within the comments, thereby shedding light on the presence of Framing Effects within this particular context.

Voyant Tools is a freely accessible application tailored to facilitate text mining endeavors, including generating word clouds, presenting word frequencies, and analyzing word collocations, allowing researchers to gain valuable insights from textual data (Sinclair & Geoffrey, 2016). Within the repertoire of functions offered by Voyant Tools, the focus of the study was predominantly directed toward the Cirrus tool (See Appendix 1). This tool employs visual aids to portray word frequency dynamics by generating word clouds that situate the most frequently encountered words and phrases at the central locus, with their font sizes magnified to denote heightened frequency occurrences. Conversely, words occurring with lesser frequency are positioned farther from the centre, accompanied by diminished font sizes.

Results

Descriptive Statistics

	Total
High Adherence Posts	30
Low Adherence Posts	20
High Adherence Comments	363
Low Adherence Comments	353

Table 1: Total Number of Posts in "High Adherence posts", "Low Adherence posts", "High Adherence comments" and "Low Adherence comments".

The analysis comprised 50 posts and 715 comments. There was a total of 30 posts that were labeled as highly adhering to reporting guidelines ("High Adherence posts") and 20 posts that were labeled as not highly adhering to reporting guidelines ("Low Adherence posts"). Additionally, there were a total of 363 comments associated with High Adherence posts ("High Adherence comments") and 353

comments associated with Low Adherence posts ("Low Adherence comments") (see Table 1).

The average number of comments per post within High Adherence and Low Adherence posts was also calculated by dividing the total number of comments by the total number of posts for each group (High Adherence posts and Low Adherence posts). There was an average of 12 comments associated with each High Adherence post and an average of 18 comments associated with each Low Adherence post.

Number of Likes Analysis

An independent samples t-test found no significant difference between High adherence posts (M = 1346.2, SD = 1798.5) and Low adherence posts (M = 2139.4, SD = 2676.2) in the number of likes, $t(48) = -1.210$, $p > 0.05$.

Posts Analysis

High Adherence Posts Content Analysis

What follows are the findings of the content analysis on High Adherence Posts in two sections. In the first section, we describe the potentially harmful content found within some of the posts, the frequency at which they occurred, and some examples from the posts themselves to better illustrate the nature of such content. In

the second section, we describe the non-harmful content found within some of the posts, the frequency at which they occurred, and some examples from the posts themselves to better illustrate the nature of such content.

'She fell from a high place': The Irresponsible Content Found Within High Adherence Posts

The content analysis revealed that several posts within the "High Adherence" category contained content deemed by current media guidelines as 'harmful' or 'irresponsible'. For example, within the caption of four posts, details pertaining to the location of a suicide event were included. Current reporting guidelines would recommend against this practice due to the capacity for audiences to identify the persons who were either injured or who had died from a reported suicide event. The information shared within these posts generally described either the general area in which a suicide event occurred or the exact address at which an event occurred:

"Two bodies were found in a car by a member of the public located at an underground parking of a residential building in Bandar Sri Permaisuri, Cheras [Location in Malaysia)"

"At the funfair which is near a shopping mall in Cheras... (Location in Malaysia]"

Additionally, there was one post that published the name of an individual who had died by suicide in a reported suicide event.

According to the theoretical frameworks underpinning contagion, exposing individuals vulnerable to suicide ideation to suicide-related behaviours could potentially encourage such individuals to imitate or learn such behaviours, especially if performed by individuals that they can closely associate themselves with.

Moreover, media reporting guidelines suggest that publishing photographs of any individuals involved in a suicide event is an attribute of irresponsible suicide news reporting. This is similarly due to the potential for such photographs to facilitate audiences to identify the persons involved in an event, as well as its potential to cause harm or discomfort amongst those bereaved by a suicide event. Six posts had published photos that contained photographs of individuals involved in the suicide event, photographs of the actual suicide event, or photographs of the location where an event occurred.

Another prominent guideline recommendation is the use of neutral or 'appropriate' language. Media reporting guidelines urge journalists to not use phrases such as "committed suicide" or "suicide victims" as such phrases portray suicide behaviours as sins or illegal acts, and thus may promote suicide stigmatization. One post within the High Adherence Posts utilized the phrase "committed suicide" within its caption:

"..gulity your whole life if someone committed suicide because of you.."

Finally, descriptions of the methods of suicide involved in a suicide event should not be reported as such details could potentially help inform those vulnerable to suicide ideation on ways to die by suicide. Such information could also be damaging to the psychological well-being of those who have lived experience with suicide. One post (written in Malay) within High Adherence posts mentioned the method employed in a suicide event within its caption, describing that an individual had attempted to jump from a tall building before being pulled away by local authorities:

"*Dilaporkan cuba terjun dari bangunan terbabit...*"

"[Reported to have tried to jump from a tall building]"

'Malaysia reported 336 suicide cases in the first three months..': The Non-Harmful Content Found within High Adherence Posts

Although irresponsible content was found within High Adherence posts, there was a significant number of posts within this category that also contained either non-harmful or even protective content.

Two posts, for example, reported on the suicide statistics in Malaysia at the time. This was labelled as non-harmful as such posts strictly reported these statistics without any interpretation or evaluation:

"*Malaysia recorded 336 suicide cases in the first three months of the year alone, an average of about four cases a day...*"

Similarly, six posts discussed the criminalization of suicide in Malaysia, typically educating audiences on this law as well as providing updates on the efforts taken by the government at the time to effectively address criticisms against this law. All six posts had additionally expressed some form of disagreement with the law:

"It is high time for Malaysia to repeal Section 309 of the Penal Code which criminalizes those who made suicide attempts..."

Instances of suicide protective elements were also included within a number of the posts within the 'High Adherence' category. Ten posts included various suicide-preventative content within their caption. These included advising readers to create trust within a community, to reach out for their mental health issues, and raising awareness amongst local communities on mental health issues. Two posts, moreover, provided tips for audiences on how to address mental health issues within themselves and for those around them. All of the aforementioned posts additionally included messages of hope and compassion. However, only one post included a suicide helpline within their caption.

Posts Analysis

Low Adherence Posts Content Analysis

What follows are the findings of the analysis of Low Adherence Posts. We describe the potentially harmful content found within some of the posts, the frequency at which these frames occurred, and some examples from the posts themselves to better illustrate the nature of such content.

'Appeared to have willingly committed suicide': The Harmful Frames Found within Low Adherence Posts

As previously mentioned, including details pertaining to the identity of persons involved in a suicide event within a suicide news report is deemed by current media guidelines as harmful and inappropriate. Four posts within the 'Low Adherence' category published the full names of the individuals involved, whilst the remaining two gave out specific details related to the individuals involved in the suicide event, such as their social media handle or place of study, that would make their identity more easily identifiable to audiences.

Similarly, several Low Adherence Posts were also found to have published details within their caption regarding the location of a reported suicide event. Seven of these posts included specific details on exactly where the event occurred, whilst the remaining two described the general housing area where the reported events had occurred:

"Student from Monash University fell from the 16th floor of the Waterfront Monash Residence…"

"Who all lived in the same house in Taman Tanah Putih Baru (Housing area in Kuala Lumpur)"

Moreover, several Low Adherence posts were found to have included inappropriate photographs. Twelve posts published photos depicting the faces of the individuals who had died or had been injured in a suicide event, the location of a suicide event, or the faces of individuals related to a person who had died or had been injured in a suicide event.

Additionally, five posts were found to have used language deemed inappropriate by media reporting guidelines such as "committed suicide" or "membunuh diri" (Malay equivalent to committed suicide) within their captions;

"Appeared to have willingly committed suicide"

"Cubaan seorang wanita membunuh diri dengan terjun"

"[A woman attempted to commit suicide by falling]"

Finally, fifteen posts within the 'Low Adherence' category described the methods of suicide involved in their reported events;

"A 23-year-old woman fell to her death from an upper floor"

"Had committed suicide in Wenshang county in Jining city, East China's Shandong Province, by drinking pesticide".

Comments Analysis

High Adherence Comments Sentiment Analysis

Sentiment analyses were conducted on comments associated with High Adherence Posts, i.e., High Adherence Comments, and comments underneath Low Adherence Posts, i.e., Low Adherence Comments. Each comment was categorized into either positive, neutral, or negative sentiment groups, as determined subjectively by the principal investigator after two iterations of sentiment analysis on the data. What follows are the findings of the analysis of High Adherence Comments in three sections. In the first section, we describe the positive sentiments found within some of the comments, the frequency at which these sentiments occurred, and some examples of such comments to better illustrate the nature of such content. In the second section, we describe the neutral sentiments found within some of the comments, the frequency at which these sentiments occurred, and some examples of such comments to better illustrate the nature of such content. The third section involves a description of the negative sentiments found within some of these comments, the frequency at which these sentiments occurred, and some examples of such comments to better illustrate the nature of such content.

'This is great news!': The Positive Sentiments Found within High Adherence Comments

The sentiment analysis conducted on High Adherence Comments found several instances whereby audiences, in reaction to the suicide news-focused posts, expressed some form of positive sentiment. Such sentiments were most prominent for High Adherence Posts discussing the decriminalization of suicide, or that had included suicide protective information. For example, several comments were made toward such posts that expressed some form of excitement or praise:

"This is great news! ♡♡♡"

A number of comments directed toward other users in a positive light had also been made within High Adherence Comments. These comments largely included messages of support for other users, often encouraging help-seeking behaviours, or encouraging users to help others within their community;

"Please if you notice someone around you who need help please help."

For High Adherence Posts that discussed an actual suicide event, there was a small percentage of comments that made supportive remarks toward the persons involved in the event. These comments often expressed some form of empathy towards the individuals involved;

"Hopefully, her state of mind will be okay",

Finally, there were several comments that had actually praised suicide posts for adhering to media reporting guidelines, such as restraining from publishing the contents of a known suicide letter within their post;

"Good that the media doesn't publish the full letter. It's private".

'Rest in peace': The Neutral Sentiments Found within High Adherence Comments

A large majority of the comments under High Adherence Posts were appraised to be neutral, in that the comments were not attached to any specific emotion. For example, a large percentage of the comments expressed condolences to persons involved in a reported event.

Moreover, several of the categorized comments discussed suicide factors. Such comments were not labelled as potentially harmful and were viewed as audiences contributing to discussions regarding suicide in Malaysia. There were a number of High Adherence comments discussing cultural perceptions toward suicide, spiritual beliefs, mental health issues, levels of awareness, and personal history in relation to suicide ideation. Such comments additionally discussed several socioeconomic factors that they believed to be contributing factors to suicide ideation such as the Covid-19 pandemic, socioeconomic issues, lack of support from public health

sectors, the criminalisation of suicide, and recent losses within the family:

"In Malaysia, stigma, and lack of awareness is the most likely prevalent factor that hinders someone from getting help."

"It's silly, isn't it? It's out desperation that drives people to Suicide"

Similarly, a number of comments discussed the general nature of mental health in Malaysia, in terms of the need to improve mental health services, and the need to increase general awareness amongst the general population:

"But, what next? What are your efforts & measures to combat mental health issues & the escalating suicide rate?"

"Mental health issues and awareness needs to be brought up. Are we doing enough as citizens?".

Several comments had additionally been found to have expressed some form of confusion surrounding the details of a reported event. Such comments were often accompanied by questions and speculations on why and how a suicide death had occurred;

"No criminal element?".

'This is just sad and tragic': The Negative Sentiments Found within High Adherence Comments

Amongst the positive and neutral sentiments, however, several comments had been found to demonstrate some form of negative emotion. In response to a suicide event, for example, several comments would express a form of sadness, anger, concern, shock, disappointment, and disgust, either through emoticons or words:

"This is just sad and tragic.."

Additionally, there were several comments that would discuss details of a suicide event that are deemed by media reporting guidelines to be irresponsible and potentially harmful, such as discussing the identity of individuals involved in reported events, or locations associated with an event:

"Allegedly entered the girl's hostel dorm in just his underwear and proceeded to harass and molest the girls"

"Baru semalam anak saya cakap cantiknya view dari ata Aeon Cheras Selatan ni".

["Only yesterday, did my child say how pretty the view is from Aeon Cheras Selatan (Suicide event location)"]

Moreover, a handful of comments expressed criticisms toward the posts themselves. These comments either urged the Instagram page to collaborate with other mental health pages, wanted additional

information on the event, or criticized the post for providing incorrectly reported data:

"Journalists' this is crucial. Gather the actual real numbers of casualties."

Low Adherence Comments Sentiment Analysis

What follows are the findings of our analysis of the comments associated with Low Adherence Comments in three sections. In the first section, we describe the positive sentiments found within some of the comments, the frequency at which these sentiments occurred, and some examples of such comments to better illustrate the nature of such content. In the second section, we describe the neutral sentiments found within some of the comments, the frequency at which these comments occurred, and some examples of such comments to better illustrate the nature of such content. The third section involves a description of the negative sentiments found within some of these comments, the frequency at which these sentiments occurred, and some examples of such comments to better illustrate the nature of such content.

'Thank God she is safe': The Positive Sentiments Found in Low Adherence Comments

There were only a few Low Adherence comments that expressed some form of positive sentiments. These comments often included

expressions of empathy toward those bereaved by a suicide event or expressions of relief that a reported suicide event did not end in a death:

"Thank God she is safe"

'I have so many questions': The Neutral Comments Found within Low Adherence Comments

There were several Low Adherence Comments that were deemed neutral. There was a large portion of comments, for example, that expressed condolences.

Moreover, several Low Adherence Comments also discussed aspects of mental health in Malaysia, such as the lack of mental health services in Malaysia;

"The lack of access to mental health is already a major problem for Malaysians"

Additionally, several Low Adherence comments critically discussed various factors associated with suicide ideation. The factors that were discussed within these comments mainly included intrinsic factors, such as levels of spirituality, mental health issues, or drug use;

"How much pain the soul felt before deciding to do this.

Extrinsic factors such as lack of government support, personal losses, or bullying were also discussed:

"Hilang kerja?"

"[Lose job?]"

Furthermore, similar to High Adherence Comments, there were several instances within Low Adherence comments whereby audiences expressed some form of concussion surrounding a reported event. Such comments were often accompanied by questions on why a death had occurred, whether it was truly a case of suicide, or speculations surrounding the reported suicide event;

"I have so many questions"

'What's the point?!?': The Negative Sentiments Found within Low Adherence Comments

A majority of the Low Adherence Comments expressed negative emotions, such as sadness, anger, shock, disgust, or frustration;

Additionally, several Low Adherence comments would discuss details of a suicide event that are deemed by media reporting guidelines to be irresponsible and potentially harmful, such as discussing the identity of individuals involved in reported events, or locations associated with an event:

"KLCC the new pekeliling flats (a suicide "hotspot" in Malaysia)"

A handful of comments additionally expressed negative sentiments towards the posts themselves. These comments often criticized the post for either posting personal details of the person who died or had been injured in a suicide event, using inappropriate language such as "willingly commit suicide", focusing too heavily on irrelevant details of an event and showing pictures of the location;

"What's the point of showing the image of the house when you already mentioned the location?"

Finally, there were several comments that were directed toward individuals involved in a reported suicide event that either asked them to "try again", calling them burdensome, or openly blaming them for their attempt at suicide;

"Cuba lagi lain hari.."

"[Try again another day]"

Voyant Tools Analysis

The Voyant tools analysis was conducted on post captions and associated comments as a means to examine the extent to which the most common news frames found within High Adherence post captions and Low Adherence post captions (as demonstrated by the most frequently occurring words within High Adherence post captions and Low Adherence post captions) aligned with the most common audience sentiments associated with both these categories

(as determined by the most frequently occurring words within High Adherence comments and Low Adherence comments). This was done to investigate whether the way in which suicide news-focused Instagram posts framed suicide events influenced the ways in which audiences discussed such events.

<u>Cirrus High Adherence Posts</u>

The Cirrus found words such as mental (occurred 28 times), health (occurred 45 times), news (occurred 20 times), government (occurred 14 times), mentalhealth (occurred 13 times), cases (occurred 13 times) and covid (occurred 12 times) to be the most frequently occurring words within High Adherence posts (*See Figure 1*).

<u>Cirrus High Adherence Comments</u>

The Cirrus found words such as mental (occurred 23 times), help (occurred 24 times), health (occurred 23 times), people (occurred 18 times), finally (occurred 15 times), need (occurred 13 times) and sad (occurred 15 times) to be the most frequently occurring words within High Adherence comments (*See Figure 2*).

<u>Cirrus Low Adherence Posts</u>

The Cirrus found words such as depression (occurred 6 times), dead (occurred 6 times), death (occurred 7 times), incident (occurred 6 times), kuantan (occured 5 times), image (occured 5 times) and mall

(occured 5 times) to be the most frequently occurring words within Low Adherence posts (*See Figure 3*).

Cirrus Low Adherence Comments

The cirrus found words such as rip (occurred 15 times), peace (occurred 13 times), mental (occurred 10 times), health (occurred 10 times), family (occurred 11 times), soul (occurred 11 times), klcc (occurred 9 times) and depression (occurred 8 times) to be the most frequently occurring words within Low Adherence comments(*See Figure 4*).

Figure 1: Processed Cirrus generated by Voyant Tools analysis on High Adherence posts.

Figure 2: Processed Cirrus generated by Voyant Tools analysis on High Adherence comments.

Figure 3: Processed Cirrus generated by Voyant Tools analysis on Low Adherence posts.

Figure 4: Processed Cirrus generated by Voyant Tools analysis on Low Adherence comments.

Discussion

General levels of adherence to reporting guidelines in suicide news-focused posts on Malaysian news Instagram accounts

This study aimed to conduct detailed content and sentiment analyses on suicide news-related posts by popular Instagram accounts officially associated with Malaysian news media organizations and their associated comments. In analyzing the gathered posts, dichotomized into High Adherence and Low Adherence categories, several features and patterns were uncovered that relate to the general nature of suicide news reporting on Instagram by popular Malaysian news media organizations. Notably, while both High Adherence and Low Adherence posts exhibited similar practices deemed irresponsible according to Malaysian media reporting guidelines, only High Adherence posts contained practices that could be considered protective or educational. Similar distinctions existed between the comments associated with High Adherence posts (High Adherence comments) and those associated with Low Adherence posts (Low Adherence comments). High Adherence and Low Adherence comments differed in the frequency of positive sentiments found within the comments, the types of responses made toward the Instagram posts, and the type of sentiments made toward suicide topics. Such differences between High Adherence comments and Low Adherence comments could reflect the differing levels of adherence between High Adherence posts and Low Adherence

posts. The potential justifications for this relationship, the potential underlying mechanisms, and the potential implications within the Malaysian context are discussed below.

The study's primary finding of more suicide news-focused Instagram posts from Malaysian news media organizations that were highly adhering than lowly adhering to local media reporting guidelines primarily suggests that Malaysian news media organizations generally adhere to the guidelines in their suicide news-focused Instagram posts. This finding contrasts with previous studies on suicide news reporting on social media platforms and past analyses of Malaysian suicide news reporting, which generally found a lack of adherence to media reporting guidelines by news media organizations (Fong et al., 2018; Fong et al., 2021; Johari et al., 2017; Lai et al., 2021; Sumner et al., 2020; Victor et al., 2019). Additionally, the current findings contradict the findings of Ng and colleagues (2021), whereby they found Malaysian journalists to be generally unaware of the local media reporting guidelines. Instead, the findings imply that Malaysian journalists are more aware of and adhere more closely to the local media reporting guidelines, at least in the context of suicide news-focused Instagram posts. This heightened awareness amongst Malaysian journalists could be attributed to contextual factors, as the current study analysed Instagram posts published during or after the COVID-19 lockdowns in Malaysia, a period when suicide and mental health issues gained

significant attention in the media (Kakunje et al., 2020). Awareness of contagion could have similarly heightened during this time, leading to generally more significant improvements in suicide news reporting practices. Moreover, it is unclear whether journalists author suicide news-related content on Instagram by Malaysian news media organizations. For example, Shade and Jacobson (2015) argue that social media managers represent a potentially new category of media professionals within the social media landscape that could be attributed to news content published on these platforms. Therefore, it is unclear whether the generally high levels of adherence found within suicide news-focused Instagram posts by Malaysian news media organizations can be attributed to increased awareness of the media reporting guidelines by journalists or by another group of media professionals. Further investigations would be required to determine why greater levels of adherence were found in suicide news-focused Instagram posts in the Malaysian context and whether such increased adherence reflects an increased awareness of the guidelines by journalists or other media professionals.

The characteristics of such "responsible" news reporting were further elucidated by content analyses of High Adherence and Low Adherence posts. The current findings would suggest that responsible suicide news reporting, in the context of suicide news-focused Instagram posts by Malaysian news media organizations, is

primarily characterized by the presence of protective or educational features and reduced frequencies in potentially harmful or irresponsible news report characteristics.

The responsible and irresponsible content found in suicide news-focused posts on Malaysian news Instagram accounts.

Both High Adherence posts and Low Adherence posts demonstrated characteristics of news reports that deviate from existing media reporting guidelines. These characteristics included promoting identification with individuals involved in a suicide event, sharing potentially triggering or graphic information or photographs, using inappropriate language, and describing methods of suicide. The current study findings imply that these irresponsible news report characteristics constitute the most prevalent irresponsible news report characteristics within suicide news-focused posts on Instagram accounts officially affiliated with Malaysian news media organizations.

Identifying individuals within suicide events

A suggested mechanism for contagion, which is the spread of suicidal behaviours through either direct or indirect exposure to such behaviours, is encouraging individuals unrelated to a suicide event to associate themselves with individuals involved in a suicide event (Niederkrotenthaler et al., 2020). A means to achieve this

could be by sharing personal information regarding individuals who had died or were injured in a suicide event. Such instances were discovered in both High Adherence posts and Low Adherence posts. These instances included posts disclosing the complete names of those involved or disclosing details that could facilitate the identification of an individual involved in a suicide event, such as their social media handle or place of study. In line with the social learning theory and the identification theory, such details may perpetuate contagion by motivating unrelated individuals to associate themselves with the characteristics of the individuals implicated, thereby potentially leading them to learn and imitate portrayed suicidal behaviours (Bandura, 1977; Domaradzki, 2021).

However, although this claim is substantiated by empirical evidence demonstrating a connection between the extent of media coverage of suicide and rises in suicide rates (Stack, 2003), Luce (2012) contends that establishing the existence of contagion effects based solely on the premises of social learning or identification embodies a 'hypodermic needle approach' to media research, in arguing that such claims presuppose that media audiences passively accept conveyed media messages, which research has supported against (Barker & Petley, 2001; Jamieson et al., 2003; Hittner, 2005; Temple, 2008). Thus, the potential for the media to promote suicidal behaviours through the mechanisms of social learning or identification might be an exaggerated claim due to an incomplete

understanding of how audiences interact with media content (Lacey, 2017). Further research on the theoretical mechanisms underlying this relationship between promoting associations with individuals involved in a suicide event and contagion is therefore required.

Furthermore, the prominence of this news report characteristic within both High Adherence and Low Adherence posts likely reflects the prominence of specific journalistic values among Malaysian journalists. Disclosing personal information of those involved in a suicide event corresponds with straight news reporting practices. Straight news reporting entails disseminating factual news without interpretations or evaluations by journalists or relevant experts (Yang & Victor, 2021). This approach to reporting corresponds to the prevalent belief among journalists of their societal obligation to "present the whole story" and to "report the world as it is, not as we wish it to be" (Yaqub et al., 2020). Although these practices are not universally regarded as detrimental, they have been noted to divert journalists from what is widely accepted as responsible and effective health communication (Southwell et al., 2013). Such values could be especially problematic in the context of suicide news reporting, whereby, in line with the social learning theory and the identification theory, the consequences of strictly reporting the details of a suicide event could promote contagion effects to audiences.

However, as previously mentioned, it is uncertain whether identifying individuals involved in a suicide event within news reports can elicit contagion effects and whether the examined suicide news-focused Instagram posts were curated by journalists. Thus, the extent to which the inclusion of such details is harmful and can be attributed to specific journalistic principles is undetermined. Further investigation is needed to determine the media professionals accountable for creating Instagram content related to suicide news on behalf of Malaysian news media organizations, the reasons behind their inclination toward encouraging identification with individuals connected to suicide events, and the mechanisms underlying the potential relationship between this news report characteristic and contagion effects.

Inclusion of potentially triggering photographs or information

Both High Adherence and Low Adherence posts contained images deemed inappropriate according to current media reporting guidelines. These images encompassed scenes related to the individuals involved, memorials, funerals, exact locations of suicide incidents, and methods of suicide (Edwards et al., 2020). Although recent literature has revealed the potential positive impact of viewing images associated with a suicide event for those bereaved by suicide, it has been generally found that photographs of a suicide event in news reports can distress vulnerable individuals and those who are grieving (Ryan & Giljohann, 2013; Widmaier, 2023).

However, it is worth noting that the recommendation to exclude detailed photographs of a suicide event is not entirely congruent with journalism practices. While the guidelines discourage using photographs depicting those who died by suicide, individuals bereaved by a reported suicide event may willingly provide these images to the media to promote their preferences regarding media coverage of the suicide event (Chapple et al., 2013). Journalists may want to include photographs provided by families or friends, as to align their reports with media coverage preferences of the bereaved and could indeed face criticism if they do not (Chapple et al., 2013). However, as discussed, publishing photographs of a suicide event may distress vulnerable individuals, and identifying individuals involved in a suicide event through photographs or otherwise may contribute to contagion effects (Domaradzki, 2021). Additionally, Ng and colleagues (2021) suggest a general lack of awareness of the media reporting guidelines among Malaysian audiences with lived experience. It is therefore argued that although journalists or media professionals should sensitively consult with the bereaved to elucidate their preferences for how they would like a suicide event to be covered in the media, the potential harmful impact of including such photographs and the lack of awareness from the bereaved on such impacts should be taken into consideration as well (Gregory et al., 2020). A means to address this nuance within journalism practice could be by adapting the current media reporting guidelines to better align with journalistic practices, as suggested by Duncan and

Luce (2020). It is argued that the current media reporting guidelines do not consider specific barriers related to the news process, such as the influence of the bereaved in including potentially harmful content in news reports. Thus, Duncan and Luce (2020) proposed an alternative model for responsible suicide reporting (RSR), which adapts the guideline recommendations to journalistic practices. The model includes the typology of a suicide story, a set of rules that can be easily applied, and a standard of moderation made very accessible to journalists. They argue that in embedding this model within journalism education and vocational training, adherence and applications of the media reporting guidelines within journalism practice can improve (Duncan & Luce, 2023).

Another feature in both High Adherence and Low Adherence posts that may similarly distress vulnerable individuals and those bereaved by suicide is the disclosure of a suicide event location. It is primarily argued that providing information about suicide event locations could enhance the popularity of specific suicide sites, contributing to the formation of recognized suicide "hotspots" (Beautrais, 2007). Additionally, sharing information on a suicide event location could promote an implicit link between the location and a particular method of suicide (e.g., a high-rise building signifies jumping from a height). Consequently, describing a suicide location may promote the location as a suicide "hotspot, and unintentionally reveal information about a potential method of suicide to audiences

(Pirkis et al., 2015). However, despite the potentially harmful implications, journalists may view the inclusion of specific photographs or information as imperative for strictly reporting the details of an event (Yaqub et al., 2020). Thus, the prominence of including "inappropriate" information regarding suicide event locations within suicide news-focused Instagram posts similarly highlights the tension between straight news reporting values and guideline recommendations in Malaysia. This finding therefore, additionally, supports the implementation of the RSR model.

However, as mentioned, it is undetermined whether journalists are responsible for news reports posted on social media platforms and whether a model adapted to journalism practice can reduce the frequency of such irresponsible news report characteristics. Further research is required to uncover the procedures involved in curating suicide news-focused Instagram posts by Malaysian news media organizations and, thus, whether guideline recommendations in the context of social media should be tailored towards journalists or other media professionals.

The use of inappropriate language

Using inappropriate or sensationalist language in news reports is considered potentially harmful to audiences according to existing media reporting guidelines, as it may be triggering for vulnerable audiences, and may promote stigmatized and harmful discussions

surrounding suicide by audiences (Edwards et al., 2020). Instances of inappropriate language use, such as using phrases like "committed suicide," were found in both High Adherence Posts and Low Adherence Posts. In line with the Framing theory, using inappropriate language may frame the discussion of suicide in a manner that promotes inappropriate or inconsiderate suicide discussions. For example, using suicide referents such as "committed suicide" may frame suicidal behaviours as sins or crimes and thus may lead audiences to hold related stigmatized beliefs toward suicidal behaviours. Such frames could be particularly harmful to those vulnerable to suicidal behaviours, leading to feelings of guilt or fear that could prevent them from seeking help (Saha & Debanjan, 2022). Additionally, promoting such stigmatized beliefs through such news frames could negatively impact those bereaved by a suicide event, as it may contribute to the stigmatized grief that these individuals can often experience (Hanschmidt et al., 2016). Framing suicide in this manner in the context of Malaysia may significantly exacerbate such feelings of guilt or stigma since, until recently, suicide was considered a criminal act. It could be argued, however, that the tendency for Malaysian news media organizations to refer to suicide events through phrases such as "committed suicide" reflected the criminalization of suicide at the time. This finding similarly relates to the relevance of addressing straight news reporting practices amongst media professionals responsible for suicide news-focused Instagram posts, as although

using such referents aligned with the facts associated with a suicide event, such referents could have perpetuated stigmatized beliefs.

Furthermore, it is essential to similarly consider that individuals bereaved by a suicide event may themselves use such referents to describe a suicide event. Thus, journalists may want to reflect the language used by the persons they interview within their reports and may face criticism from bereaved families if they do not (Chapple et al., 2013). Thus, addressing this "irresponsible" news report characteristic may also require promoting awareness of the media reporting guidelines within audiences.

Description of the methods of suicide

Providing information on suicide methods is one of the main factors associated with contagion effects (Niederkrotenthaler et al., 2020). Providing such information through news reports is deemed harmful as it may help inform vulnerable individuals on ways to carry out such behaviours, thus inherently promoting imitation. For example, Chan et al. (2005) interviewed survivors of the so-called "charcoal-burning suicide attempts" and found that the survivors had learned of this method primarily through their news consumption. The current study found many of the suicide news-focused Instagram posts to contain information detailing individuals who had died by suicide from jumping from a high place or self-poisoning. These methods are the most common means by which

suicide is attempted in Malaysia (Murty et al., 2008). Following the claim made by Niederkrotenthaler and colleagues (2020), including details within a news report highlighting specific suicide methods may further perpetuate the frequency of these methods. Thus, it could be argued that strictly reporting these popular suicide methods could contribute to the popularity of these methods. This, again, demonstrates the need to address straight news reporting practices within Malaysian news media organizations in the context of suicide news-focused Instagram posts.

In summary, these findings suggest that regardless of their adherence to media reporting guidelines, Instagram posts on Malaysian news media organization accounts focusing on suicide news display characteristics aligned with irresponsible reporting practices. This finding supports prior research indicating the presence of both protective and harmful aspects in suicide news reporting, irrespective of overall compliance with existing guidelines (Domaradzki, 2021).

The prevalence of these irresponsible reporting features may be linked to the prevalence of traditional straight news reporting practices. Therefore, addressing these irresponsible news report characteristics may require efforts to change the values held by Malaysian journalists or to adapt the current media reporting guidelines to journalism practices (Duncan & Luce, 2020). Additionally, it is crucial to acknowledge that individuals affected by

suicide may also inadvertently perpetuate such irresponsible reporting characteristics through the photographs they provide and the sentiments they share with the media. Consequently, addressing these issues may necessitate increasing awareness of media reporting guidelines amongst audiences or adapting the guidelines to models like the RSR that consider the nuances within journalism practices (Duncan & Luce, 2020). However, regarding the latter, it remains unclear whether journalists are solely responsible for the prevalence of these irresponsible reporting characteristics in suicide news-focused Instagram posts. Thus, further research is essential to determine whether these characteristics are rooted in journalism practices or if they are more relevant to another media profession.

Furthermore, despite the similarities in irresponsible practices between High Adherence and Low Adherence posts, there were also significant differences between these two categories. Primarily, Low Adherence posts more frequently demonstrated irresponsible news report characteristics than High Adherence posts. Additionally, the study found several protective and educational features within High Adherence posts that did not exist within Low Adherence posts. This would suggest that, in addition to the frequency of irresponsible news reporting practices, protective and educational elements also differentiated High Adherence posts from Low Adherence posts.

The protective and educational elements found in High Adherence posts included agenda-setting practices around discussions on suicide-related laws in Malaysia, the discussion of prevention strategies, the discussion of suicide statistics, and the inclusion of suicide protective information.

<u>Agenda-setting practices</u>

Following the findings of Victor et al. (2019), the criminalization of suicide emerged as one of the most common topics discussed on suicide news-focused Instagram posts by Malaysian news media organizations. This was viewed as an essential topic to discuss by Malaysian suicide prevention advocates due to the prominence of the suicide laws in Malaysia at the time, and the need for more initiatives in Malaysia to raise awareness of suicide stigmatization (Vijayakumar, 2018). Previous research on the media's influence on issue salience among audiences has shown that framing a particular issue in line with a media agenda can significantly impact public perceptions and discussions toward those issues (Robert et al., 2002). The study found that much of the discussions surrounding the criminalization of suicide within High Adherence posts were centred around a particular agenda of destigmatizing and decriminalizing suicide, which aligns with suicide prevention efforts. This finding additionally aligns with a journalistic practice termed "attribute agenda setting," which involves calling attention to a particular media agenda to increase its prominence in the public

eye. Attribute agenda setting involves increasing the salience of a specific issue within a news report by highlighting specific aspects of the issue deemed "important" and neglecting any other issues or opinions deemed unimportant (Kim et al., 2002). The primary difference between attribute agenda setting and framing is that although both attribute agenda setting and framing involve increasing the salience of a particular issue through similar mechanisms, not all frames involve agenda setting. In contrast, attribute agenda setting always involves framing (McCombs, 2005).

Due to the lack of evidence supporting its efficacy, Malaysian suicide prevention advocates have been calling for decriminalizing suicide in Malaysia for years (Khamis et al., 2022). Thus, High Adherence posts were found to have utilized agenda-setting practices to frame discussions on the criminalization of suicide in Malaysia in a manner that aligned with suicide prevention efforts.

Population-Level Suicide Prevention Strategies

Several population-level suicide prevention strategies were discussed in High Adherence posts. These posts included advice on creating trust within a community, addressing sociocultural factors surrounding suicide events, and raising awareness of mental health issues within local communities. Media reports that promote sensible and appropriate topics on suicide, such as providing practical coping mechanisms or depicting individuals who have

overcome their struggles with suicide, have been argued to have protective effects at the population level (Markiewitz et al., 2020). Although the population-level strategies promoted within these posts did not align with Malaysian-specific strategies, which primarily emphasize targeting factors related to specific ethnic groups (Maniam et al., 2013), including such strategies could have been beneficial, nonetheless.

<u>Discussion of suicide statistics</u>

Several High Adherence posts discussed suicide statistics. Suicide statistics within these posts were not framed to promote a protective or productive media agenda, such as guiding discussions on suicide in a way that destigmatizes the issue. Instead, statistics were often reported directly without interpretation from the media or health professionals. Reporting on suicide statistics was categorized as a characteristic that aligned with high adherence to media reporting guidelines due to the capacity for such information to be valuable and informative for audiences in the Malaysian context. Malaysia is argued to lack consistent and reliable suicide data despite the need for consistent and reliable suicide statistics being highlighted within the country for years (Lew et al., 2022). The inclusion of suicide statistics by various news media organizations within their suicide news-focused Instagram posts, therefore, may have acted as an educational element that addresses this issue.

<u>Promotion of suicide protective information</u>

Finally, two High Adherence posts were dedicated to promoting suicide protective information. These posts included promoting mental health services and advising on emotional support and mental health. As mentioned, such elements may have protective effects by providing helpful information to help vulnerable individuals attend to suicidal thoughts or behaviours (Markiewitz et al., 2020). However, despite high adherence being characterized by the addition of such protective information within its posts, only two posts were found to have included such information. The finding that there was a generally small number of posts that included suicide protective information aligns with past studies that have found Malaysian suicide news reports to generally lack information on helplines or other protective information (Fong et al., 2018; Fong et al., 2021; Victor et al., 2019). The current study findings additionally align with past research which found that stories promoting Papageno effects, or stories that depict hope or recovery from suicide events, are generally uncommon occurrences amongst suicide news reports (Arendt et al., 2023). This implies that Malaysian news media organizations tend to concentrate more on minimizing harmful elements than promoting protective ones. This further aligns with past studies arguing that journalists find avoiding harmful elements easier than integrating elements

conducive to a Papageno narrative within their news reports (Aredn et al., 2023).

The observed outcomes underscore the distinct protective and harmful aspects within High Adherence posts, which set them apart from their Low Adherence counterparts. This indicates that the adherence of Malaysian news media organizations to media reporting guidelines essentially involves reducing the prevalence of specific irresponsible reporting practices alongside incorporating protective and educational components as described above. This contrast illuminates the duality of responsible and irresponsible reporting practices upheld by Malaysian news organizations within Instagram.

Although the study elucidated the characteristics that differentiate High Adherence posts from Low Adherence posts, it remains uncertain whether these differences in High Adherence posts and Low Adherence posts relate to how audiences engage with such posts and with suicide-related topics in general. It is commonly believed that sensationalized suicide news reporting (i.e., reporting with low adherence to media reporting guidelines) leads to greater audience engagement (Sumner et al., 2020). However, in analyzing the number of likes from High Adherence and Low Adherence posts, the current study does not support this claim. The like feature indicates approval and popularity on social media platforms, which suggests it to be somewhat representative of audience engagement

(Dumas et al., 2017; Sheldon & Bryant, 2016). The study found no significant difference between High Adherence and Low Adherence posts in their number of likes, thus suggesting that adherence or lack of adherence to the media reporting guidelines within suicide news-focused Instagram posts does not influence audience engagement. However, although the analysis of the number of likes does not support this relationship, when analyzing the sentiments within High Adherence and Low Adherence comments, this relationship does seem to be supported.

The influence of adherence to media reporting guidelines on user sentiments toward suicide-related news posted by Malaysian media organizations on Instagram

<u>Adherence and Audience Engagement</u>

Increased audience engagement through sharing, commenting, or liking is argued to enhance news media organizations' reach, credibility, and revenue (Meier et al., 2018). Higher levels of audience engagement often reflect the perceived reliability of the organization and can often lead audiences to be more inclined to return for future news consumption (Floridi et al., 2018). Audience engagement, in the context of news reporting, can be defined as how individuals discuss, understand, and attend to news content. This can be further dichotomized into reception-oriented and

production-oriented audience engagement. Reception-oriented audience engagement refers to how audiences respond to news content through liking, sharing, or commenting. It is argued to be particularly relevant to for-profit news media organizations that view their news content as a commodity and their audience as consumers (Nelson, 2021). The relevance of reception-oriented audience engagement to news media organizations is in line with a theoretical framework commonly used in the management literature concerning the identification and ascertaining of 'stakeholder salience' (Mitchell et al., 1997).

The 'stakeholder salience' framework facilitates the prioritizing of an organization's relationship with groups or individuals that may affect or are affected by the organization's actions ("stakeholders") based on their significance to the organization or 'salience' (Laplume et al., 2008). Salience, in this context, is determined by a stakeholders' possession or attributed possession of one, two, or all three of the following attributes: 1) the stakeholders' power to influence the organization (Power), 2) the legitimacy of the stakeholders' relationship with the organization (Legitimacy), and 3) the urgency of the stakeholders' claims on the organization (Urgency) (Mitchell et al., 1997). It is argued that salience is positively related to the cumulative number of attributes perceived by managers to be present. Salience is low if only one attribute is

present, moderate if two attributes are present, and high if all three attributes are present (Laplume et al., 2008).

Malaysian news media organizations could perceive their audience or those who consume their news reports, as a moderately salient stakeholder group since they could be perceived to possess two of the three attributes mentioned above — Namely, power and legitimacy. Such attributes are often perceived to be consistently present in consumers — which, as mentioned, is a label that for-profit news media organizations tend to attribute to their audience — since they hold a legitimate and essential relationship with organizations (Legitimacy) and can directly influence organizations through either their attention (as a commodity) or spending behaviour (Power) (Magness, 2008). In Mitchell and colleagues' (1997) framework, they define a *stakeholder group* with perceived "legitimacy" and "power" as "Dominant Stakeholders" and describe their influence on corporate management as vital, as they can expect and deserve to receive much of the organizations' attention. Thus, according to the stakeholder salience framework, maintaining a positive relationship with their audience is crucial for news media organizations. It is further argued that attending to reception-oriented audience engagement could be a means for news media organizations to achieve this (Nelson, 2021). In line with this, the current study examined audience engagement toward High Adherence and Low Adherence posts through sentiment analyses of

High Adherence and Low Adherence comments. In doing so, it was found that Low Adherence posts received more criticism and fewer positive sentiments from their comments than High Adherence posts.

The sentiment analysis conducted on High Adherence comments and Low Adherence comments found that more positive emotions were conveyed within High Adherence comments than Low Adherence comments. This would suggest that although there were more users engaged with Low Adherence posts, as evidenced by the more significant number of Low Adherence comments than High Adherence comments, audiences that engaged with High Adherence posts more positively engaged with such posts as compared to audiences that engaged with Low Adherence posts. Positive affect in this context refers to joy, excitement, gratitude, or encouragement. O'Brien Toms (2008) argues that such sentiments facilitate audience engagement. Thus, greater occurrences of positive affect may reflect similar increases in audience engagement. The greater percentage of positive affect within High Adherence comments compared to Low Adherence comments could be attributed to the lower frequency of irresponsible practices and the greater occurrence of educational and protective elements found in High Adherence posts. The sentiment analysis conducted on High Adherence comments supports this claim, as the High Adherence comments expressing positive sentiments, such as excitement or gratitude, were often

made in response to protective or educational elements within High Adherence posts. This suggests that adhering to media reporting guidelines can elicit more audience engagement.

The importance of news media organizations to attend to the needs and preferences of their audience through their news production, such as through adhering to the media reporting guidelines, is in line with production-oriented audience engagement, which is often associated with non-profit news media organizations. However, the current study found that attending to the audiences' needs within news production can influence reception-oriented audience engagement. Thus, the current study supports the importance for profit-oriented news media organizations to attend to both production-oriented and reception-oriented audience engagement, as adherence to media reporting guidelines was found to be a potential mechanism for enhancing reception-oriented audience engagement.

However, although the current study implies that reception-oriented audience engagement is associated with adherence to the media reporting guidelines, a similar association could not be applied to audience disengagement. The study found the same number of sentiments expressing negative affect, such as sadness, anger, shock, and distress, in both High Adherence comments and Low Adherence comments. While positive affective states are essential for audience engagement, negative affective states are

more relevant to audience disengagement (O'Brien & Toms, 2008). It could be argued that the substantial number of comments conveying negative emotions in both High Adherence and Low Adherence comments mirrors the inherent characteristics of suicide news reporting, wherein user reactions towards suicide news are naturally inclined to be adverse or hostile. This is consistent with previous studies demonstrating that comments on news reports about celebrity suicides generally contain more negative internalized emotions than other news reports (Kumar et al., 2015; Rosen et al., 2019). This relationship could additionally be explained through "parasocial interaction," which is when audiences develop a bond with individuals unrelated to them in the media or otherwise (Rosen et al., 2019). Studies have shown that loss of parasocial interactions can evoke intense negative feelings, such as those observed within High Adherence and Low Adherence comments (Cohen & Hoffner, 2016). Therefore, it could be argued that suicide events reported by news media organizations, irrespective of adherence to media reporting guidelines, can trigger emotionally charged negative sentiments. As such, the present findings imply that Malaysian news media organizations can impact audience engagement by deliberately modifying protective and informative attributes and reducing irresponsible practices in their suicide news-focused Instagram posts. However, such manipulability was not found to extend to audience disengagement.

<u>Levels of Adherence and User Perceptions Toward the Content</u>

This claim on the capacity for news media organizations to increase reception-oriented audience engagement through their adherence to media reporting guidelines is further supported by the finding that instances of criticisms toward irresponsible news report characteristics were found in both High Adherence and Low Adherence comments. The study found that such criticisms were mainly directed toward specific irresponsible news report characteristics, such as including inappropriate photographs or information. In line with the stakeholder salience framework, such criticisms may negatively impact the organizations themselves. Gafni and Golan (2016) found that negative consumer reviews shared on social media can influence the consumer behaviours of other potential consumers. Based on posted reviews, potential consumers may decide whether to engage with a product. Thus, in the context of the current study, criticisms toward an Instagram post by a news media organization may inform future audiences on whether they would like to consume content from the organization. Since much of the criticisms observed within the current study were directed towards irresponsible news report characteristics, Malaysian news media organizations may address such criticisms by avoiding such characteristics within their suicide news-focused Instagram content.

In line with this finding, the study also found instances within High Adherence comments whereby users praised posts for abstaining from irresponsible reporting practices and for incorporating protective or educational information. This suggests that while irresponsible reporting practices were associated with criticism, responsible reporting practices were conversely associated with praise. In line with the stakeholder salience framework, these findings indicate that Malaysian news media organizations on Instagram could nurture their relationship with their audience by including more educational or protective information, as a means to increase the likelihood of praise from audiences, and by avoiding irresponsible news reports characteristics, as a means to reduce the likelihood of criticism from audiences, within their suicide news-focused Instagram posts.

Moreover, in line with such claims on the importance of adherence to media reporting guidelines, the study found several explicitly harmful and unsafe sentiments made toward posts and other users within Low Adherence comments. Several Low Adherence comments, for example, urged individuals within a reported suicide event to try again or blamed individuals in a suicide event for their hardship. Such sentiments were deemed harmful as they could have contributed to the stigmatized grief that those bereaved by a suicide event often experience or could have promoted self-harm or suicidal behaviours to vulnerable individuals (Hansschmidt et al., 2016;

Thum et al., 2023). Such unsafe messaging and discussions surrounding a suicide event could be attributed to how Low Adherence posts framed their suicide discussions. In line with the Framing theory, it could be argued that the irresponsible and potentially harmful discussions on suicide events found within Low Adherence comments could have reflected similarly irresponsible and potentially harmful suicide discussions within Low Adherence posts. In the context of the current study, this would suggest that although news media organizations are not able to directly moderate their audiences to avoid such irresponsible sentiments, according to the Framing theory, news media organizations can influence audiences away from such sentiments through their framing of suicide discussions within their suicide news-focused Instagram posts.

The Influence of Adherence to Reporting Guidelines on user sentiments toward suicide

Levels of Adherence to Reporting Guidelines and User Sentiments Toward Suicide

In line with the previous findings, the current study elucidated a potential relationship between levels of adherence to media reporting guidelines by suicide news-focused Instagram posts and how audiences discussed suicide topics in general. The Voyant tools analyses conducted on High Adherence posts, Low Adherence posts,

and their comments found similarities between the most frequently occurring words within these posts and the most frequently occurring words within their corresponding comments. In analyzing the Cirrus visualization for High Adherence posts, for example, it was found that the most frequent words used within these posts aligned with a general theme of suicide prevention, as indicated by the frequency of terms like "mental," "health," "government," and "mentalhealth." Similarly, the Cirrus visualization for High Adherence comments revealed that the most frequently occurring words were similarly related to this theme, with terms like "mental," "help," "health," "people," and "need" being frequently used. These findings imply that High Adherence posts tend to use words more aligned with suicide prevention, with their comments reflecting similar tendencies to discuss suicide in this manner.

Contrastingly, in analyzing the Cirrus visualization for Low Adherence posts, the most frequently used words within these posts were associated with reporting the details of a suicide event, as evidenced by the frequency of words such as "death" or "incident", as well as the frequency of words which allude to discussions of a suicide event location, such as "Kuantan" (a city in Malaysia) or "mall." Similarly, the Cirrus visualization for Low Adherence comments indicated that the most frequently occurring words within these comments were also related to discussions on a suicide event location, with the prominence of words such as "KLCC" (A mall

in Malaysia). This suggests that the tendency for Low Adherence posts to discuss inappropriate details of a suicide event is similarly reflected within their corresponding comments. Such findings are in line with the Framing theory, whereby it is argued that how a news report frames a particular topic or issue can influence how its audience discusses such topics or issues.

The finding that discussing suicide news in a particular, either inappropriate or protective, manner can influence audiences to discuss such news similarly is particularly relevant to news media organizations due to the current landscape of news reporting and consumption. The current news media landscape has shifted towards audiences actively participating in news dissemination. With the emergence of social media, individual users within the audience can now disseminate news content published by news media organizations and contribute to how other users within their social network perceive such news content (Loosen & Schmidt, 2012). As previously found within this study, irresponsible news report characteristics within their Instagram content may lead to several negative implications for news media organizations, such as increased criticism and fewer positive sentiments. The current study additionally finds that framing effects can perpetuate such negative implications for news media organizations due to the capacity for audiences to disseminate news content by news media organizations and for suicide news-focused Instagram posts to elicit

framing effects. The current study, therefore, found support for the existence of framing effects and argues for such effects to underscore the relationship between audience engagement and adherence to media reporting guidelines.

Levels of Adherence and User Discussions on Suicide Factors

The present study additionally found differences in the suicide factors discussed within High Adherence and Low Adherence comments. Both High Adherence and Low Adherence comments discussed intrinsic factors related to suicide ideation, such as spirituality, mental health issues, personal losses, and history with suicide. This finding indicates that regardless of adherence levels within a post, audiences tend to discuss relatively similar intrinsic factors to suicide within the comments. This could be attributed to the general lack of discussion on the intrinsic factors of suicide in both High and Low Adherence posts.

Conversely, disparities emerged between High Adherence and Low Adherence comments in their discussion of external factors associated with suicide. High Adherence comments delved into extrinsic factors such as the pandemic, socioeconomic challenges, inadequate government support, restrictive suicide legislation, and a general lack of awareness in their discussions of external factors of suicide. In contrast, Low Adherence Comments only made mention of external factors like insufficient government assistance and instances of bullying. The variation in the extent to which

extrinsic factors were addressed between High Adherence comments and Low Adherence comments might mirror the inclination of High Adherence posts to discuss suicide laws and statistics. In line with Framing effects, the tendency for High Adherence posts to discuss more educational suicide-related topics may have consequently prompted more discussions on the contextual factors linked to suicide risk within the accompanying comments, as compared to Low Adherence posts.

Conversely, the inclusion of such educational elements may have led to increased suicide literacy amongst audiences within High Adherence comments, as compared to audiences in Low Adherence comments. An individual's level of knowledge on suicide topics encompasses their suicide literacy. Suicide literacy can be broadly defined as the knowledge and beliefs about suicide that aid its recognition, management, and prevention (Batterham et al., 2019). An important knowledge dimension of suicide literacy is knowledge of risk factors and causes (Al-Shannaq & Aldalaykeh, 2021). As such, the increased instances within High Adherence comments discussing external factors of suicidal behaviours, as compared to Low Adherence comments, could be reflective of the educational elements within High Adherence posts which may have contributed to their audiences' knowledge of suicide factors, and thus suicide literacy.

Lack of awareness of responsible reporting practices from audiences

Instances of confusion and uncertainty regarding the details of reported events were observed equally in both High Adherence and Low Adherence comments. Such sentiments involved speculations and questions regarding event details. It was found that regardless of levels of adherence to media reporting guidelines, audiences still speculated on the suicide events and, in some cases, would ask for potentially harmful details regarding these events from posts, such as the location of an event or the methods involved in a suicide event. Thus, the current findings support that although adherence to the media reporting guidelines seems to be sufficient amongst Malaysian news media organizations on Instagram, knowledge of such guidelines may need to improve amongst their audience, to prevent perpetuating irresponsible news reporting practices on this platform. However, such confusion toward suicide events from audiences could have also reflected a general lack of understanding of suicide topics. For example, Phoa and colleagues (2022) found support for a general lack of suicide literacy among Malaysians, especially those with lower socioeconomic status and poorer education levels. Thus, confusion toward suicide events may have reflected poor suicide literacy amongst the audience and a general lack of knowledge of media reporting guidelines.

Implications

The findings reinforce the relevance of current media reporting guidelines for Malaysian news media organizations. The study primarily demonstrates that audiences respond more positively to responsible reporting practices and exhibit more criticism toward irresponsible reporting practices. These findings reinforce the need for Malaysian news media organizations to adhere to media reporting guidelines to ensure reception-oriented audience engagement. Adopting responsible reporting practices for their suicide news reporting may additionally convey to audiences that the organization is attuned to public safety, mental health awareness, and suicide prevention when reporting on suicide events. Thus, adherence to media reporting guidelines could act as a practice to increase Corporate Social Responsibility (CSR). CSR argues that management within corporations has roles and responsibilities beyond profit maximization, which include the interests and claims of non-stockholding stakeholders (Victor et al., 2019). CSR practices involve allocating time and resources towards organizational habits or events that benefit the society surrounding an organization. The specific details of a CSR practice are entirely determined by an organization and its motivations, whether founded in the desire to do good or by enlightened self-interests (since such practices can often either directly or indirectly benefit the corporations themselves) (Smith, 2003). The current study found adherence to media reporting guidelines to not only act as a

means to align news media organizations with suicide prevention efforts but also as a means to enhance audience engagement and, therefore, revenue. Thus, adherence to the media reporting guidelines could be viewed as a potential CSR practice for news media organizations.

Moreover, the study identifies the most common irresponsible news report characteristics in suicide news-focused Instagram posts by Malaysian news media organizations. These practices include discussing the identity of deceased individuals in a suicide event, revealing the location of an event, including inappropriate photographs, using inappropriate language, and describing the methods of suicide. This information is a valuable resource for future investigations, potentially enabling researchers to focus their studies on these specific guideline recommendations. Stack (2020) argues that there is a lack of rigorous evaluation of the efficacy of adherence to specific guideline recommendations. Such research conducted in the context of Malaysia could use the current findings to identify which guideline recommendations are the most relevant to investigate. Additionally, media organizations and suicide prevention advocates could use these findings to pinpoint the practices that need to be targeted for reduction in Malaysia.

Finally, the study provides media organizations with actionable insights on improving their suicide news reporting practices on Instagram. By highlighting responsible practices such as agenda-

setting on issues like the criminalization of suicide, discussing prevention strategies, sharing suicide statistics, and providing protective and educative information, media organizations can enhance their content's quality and impact. The study also highlights the responsible reporting practices currently lacking within this landscape, such as including helplines within posts or news stories of hope. Relevant suicide prevention researchers and advocates can target these aspects to improve suicide news-focused Instagram posts by Malaysian news media organizations. By incorporating these findings into practice, it may be possible to enhance the overall quality of suicide news reporting on social media platforms in Malaysia.

Limitations

Coding procedures

Previous studies analyzing unstructured data to explore the relationship between adherence to suicide reporting guidelines in suicide-related social media content and user responses have often employed human review and content analysis (Edwards et al., 2020; Sumner et al., 2020). These studies typically followed rigorous qualitative coding procedures, including double review, inter-rater reliability calculations, and structured processes for reconciling coding differences between multiple coders (McDonald et al.,

2019)—however, a single coder coded all the posts and comments in the current study.

The current study aimed to ensure consistency over time to address the need for inter-rater reliability. This involved coding a clean version of the previously coded document later, after the initial coding iteration, and reconciling any differences between the two versions. While this procedure is valid for testing reliability, previous studies argue that having multiple coders is preferable to relying on a single coder (Richards, 2020). Maintaining consistency with only one reviewer over time can be challenging as their understanding of the data may evolve. In addition, having more than one coder may result in restrictive codes, as definitions may not be self-evident to other researchers, making data analysis interpretations difficult for researchers outside the project (Elliott, 2018). Past studies suggest employing two coders, with at least one coder unfamiliar with the research aims or hypotheses and ensuring an agreement of 85%-90% between coders as the ideal coding arrangement (Luker, 2009; Miles et al., 2014). However, this study could not adopt such methods due to limited resources and time constraints.

Sentiment analysis

The data analysis could have incorporated a machine-learning approach to sentiment analysis instead of relying solely on human

interpretations. Bothos and colleagues (2010) argue that automated machine analysis of sentiments expressed within a large volume of data is preferred over manual analysis, which is difficult and costly. In recent years, many studies have utilized machine learning-based approaches for sentiment analysis (Mantyla et al., 2018). These studies typically adopt either a supervised machine learning approach or an unsupervised lexicon-based approach, neither of which were employed for this study. Utilizing either of these approaches would have enhanced the reliability of the sentiment analysis, given the empirical support for their use. Instead, the study employed a more manual approach, which provided more profound insights into the text data but may have introduced various biases and heuristics. Automating the sentiment analysis through supervised or unsupervised approaches would have allowed the study to rely more on empirical research rather than intuition.

Previous research on sentiment analysis of social media data supports this claim. For example, Zhan and colleagues (2018) conducted sentiment analysis on Instagram post captions using supervised machine learning algorithms, which could have been replicated in this study. Similarly, if an unsupervised lexicon-based approach were to have been adopted for this study, a lexicon specific to Malay social media text called the RojakLex lexicon could have been utilized to address challenges specific to Malay social media

language (Chekima & Alfred, 2018). However, these methods were not implemented due to time constraints in this research project.

<u>Sample</u>

Given the diverse range of languages in Malaysia, previous studies on Malaysian suicide news reporting have examined reports written in other prominent languages, such as Tamil, Malay, or Chinese dialects, considering Malaysia's plural sociocultural makeup (Chee-Beng, 2000). Although one Instagram account included Malay phrases in its post captions, most of the gathered accounts catered to English-speaking Malaysians. To generalize the findings to a broader range of Malaysian news media organizations, future studies could investigate Instagram accounts that cater to other vernacular languages in Malaysia.

Future Research

Further research on suicide news reporting in the context of Malaysian news media on other popular social media platforms, such as Facebook and Twitter, would provide a broader understanding of the quality of suicide news reporting on social media platforms in Malaysia (Wok & Mohamed, 2017). Additionally, qualitative investigations involving relevant stakeholders' opinions on suicide news reporting on Malaysian news Instagram accounts could shed light on perceived issues with adherence to current

media reporting guidelines. Such research would complement the findings of this study by providing insights into whether media organizations intentionally employ specific framing techniques, their awareness of framing effects, and why Malaysian news Instagram accounts predominantly adhere to specific reporting guideline recommendations.

Moreover, the study did not investigate the potential impact and general perceptions of specific guideline recommendations. Stack (2020) argues that further research is needed to determine the mechanisms behind guideline recommendations and their influence on population-level suicidal behaviours. Thus, future research examining how specific guideline recommendations influence attitudes toward suicidal behaviours would be beneficial.

Conclusion

The current study ultimately supports the relevance of current media reporting guidelines for Malaysian news media organizations and elucidates the general nature of suicide news-focused Instagram posts in Malaysia. The findings indicated that more posts were categorized as highly adhering to reporting guidelines (High Adherence Posts) than lowly adhering (Low Adherence Posts), suggesting a general adherence to media reporting guidelines in suicide news reporting on Malaysian news Instagram accounts. The

content analysis revealed high adherence within a Malaysian news media Instagram post was characterized by lower frequencies of irresponsible reporting practices and increased frequencies of protective and educative features. The study additionally found low adherence to the media reporting guidelines to be associated with greater instances of criticism and fewer instances of positive affect. The demonstrated greater audience engagement within High Adherence comments, as compared to Low Adherence comments, could be directly attributed to the lower frequency of irresponsible practices and greater occurrence of educational and protective elements found in High Adherence posts, as compared to Low Adherence posts. This indicates that Malaysian media organizations should perhaps focus on including more protective and educational elements, as well as reduce irresponsible practices, within their suicide news-focused Instagram posts to improve audience engagement. Despite this, the study found that both High Adherence comments and Low Adherence comments contained the same number of sentiments expressing negative affect. This would suggest that while Malaysian news media organizations can influence audience engagement by adjusting protective and informative elements within their suicide news reports, the same malleability cannot be attributed to audience disengagement.

Moreover, it was found that there was a greater frequency of High Adherence comments that discussed extrinsic factors related to

suicide in Malaysia, and a greater frequency of Low Adherence comments that expressed explicitly harmful or irresponsible sentiments toward the posts or other users. In line with Framing effects, it could be argued that the tendency for High Adherence posts to frame suicide discussions toward protective and educational agendas may have influenced the corresponding comments to discuss suicide topics similarly. Similarly, the tendency for Low Adherence posts to include discussions on the details of a suicide event, and other irresponsible news reporting characteristics, may have influenced the corresponding comments to adopt similar irresponsible practices and habits. Further evidence of Framing effects can be found in the Voyant tools analysis, which found that High Adherence and Low Adherence comments reflected the news frames toward suicide within High Adherence and Low Adherence posts, respectively.

Finally, the study found that regardless of levels of adherence, there were several instances whereby audiences speculated on the reported events or asked for more details. This finding would suggest an additional need for audiences to be aware of safe reporting practices and the dangers of unsafe reporting to prevent audiences from perpetuating irresponsible reporting practices.

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Appendix
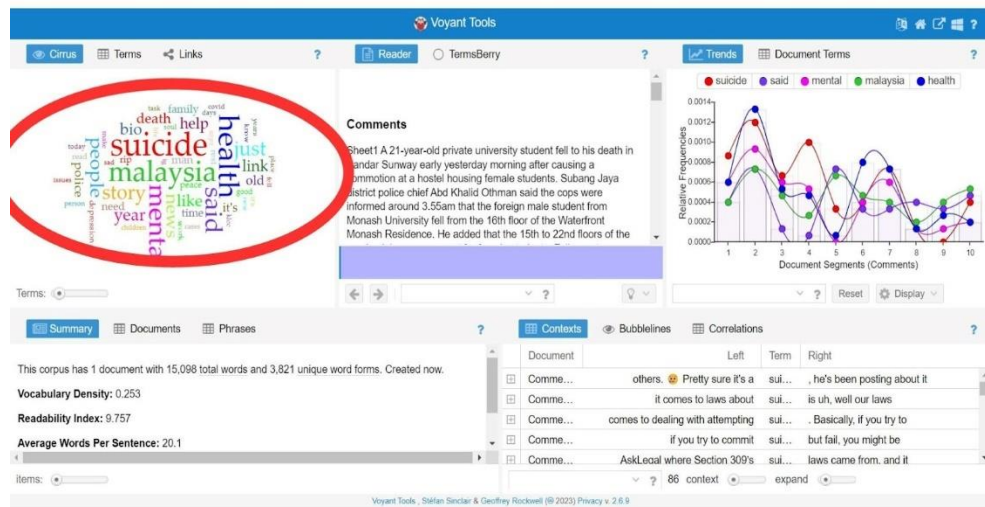
Appendix 1: Cirrus Tool within Voyant Tools circled in red