

## RISK FACTORS FOR UNRELIABLE EYEWITNESS EVIDENCE



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### **Abstract**

Accuracy in eyewitness testimonies is crucial and the success and direction of criminal investigations rely heavily on the details given. Also, eyewitness testimonies have a large bearing on court decisions and the fate of people's lives. The justice system places a lot of emphasis on eyewitness testimonies, so understanding memory recall and factors possibly affecting it is important. It has been a general consensus that eyewitness testimony is highly unreliable and it tends to cause problems for many cases. This can be observed in the reported 70% of the now more than 300 DNA exonerations of wrongfully convicted individuals (Wixted et al., 2015). The goals of this study is to alleviate those problems and provide concrete answers for eyewitness testimonies. The study will explore many aspects that are taken into account in eyewitness testimony. Many studies exploring memories, and how they are retrieved have been conducted. These studies have demonstrated that memories are constantly being formed and stored throughout the brain. Many factors have been explored in order to understand their effect on memory recall. The temperament of individuals has been linked to influence memory. Personality traits and moods can also have an effect on memory recall. The manner in which law enforcement conducts interviews can also influence someone's memory recall. Gender differences have also been found during eyewitness account reports. It is important to understand as many factors as possible pertaining to eyewitness testimonies because of the importance it holds within the justice system.

### **Introduction**

Among procedural safeguards that may be presented in court is the testimony of an eyewitness expert. Eyewitness experts serve a context-building function by providing social framework testimony (Walker & Monahan, 1987). Where an eyewitness account is presented

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as evidence, experts may be requested by counsel to attest to the nuances of human memory and discuss the potential impact of case-relevant variables on eyewitness accuracy. Rather than offering an ultimate opinion on the contents of an eyewitness' memory, the jury is educated on general conclusions from social science research to assist in their fact-finding function (Cutler & Kovera, 2010; Leippe, 1995; Malpass, Ross, Meissner, & Marcon, 2009). Whether eyewitness expert testimony is an appropriate procedural safeguard (PS) is contested. Supporters contend that expert testimony "can help jurors better judge the veracity of eyewitness testimony" (Leippe, Eisenstadt, Rauch, & Seib, 2004, p. 525). In this vein, compelling arguments have been made in support of allowing eyewitness experts into court to serve this pedagogical function (e.g., Fradella, 2006; Leippe, 1995; Wise, Dauphinais & Safer, 2007; Yarmey, 2001). On the contrary, critics argue that expert testimony may "cause jurors to become overly skeptical of eyewitness evidence" (Leippe et al., 2004, p. 525). The probative value of expert testimony clearly must be balanced with its potential prejudicial effect. To meet this end, Canadian courts have developed guidelines surrounding the admissibility and approved scope of eyewitness expert testimony through decades of common law.

### **TESTS OF ADMISSIBILITY**

The benchmark United States Supreme Court case of *Daubert v. Merrell Dow Pharmaceuticals* (1993) (hereafter *Daubert*) set out admissibility standards for expert testimony that would later be mirrored in Canada. In *Daubert*, the Supreme Court held that the Federal Rules of Evidence supersede the general acceptance standard of expert testimony set out in *Frye v. United States* (1923) (hereafter *Frye*). Under *Frye*, expert opinion testimony was admissible if based on techniques and methodologies generally accepted as reliable by the relevant scientific community. *Daubert* expanded the admissibility standard to a four-tiered test, delineated in the Federal Rules of Evidence (Rule 702; see Federal Evidence Review, 2014). A qualified expert may testify if the testimony: a) includes scientific, technical or other specialized knowledge that will assist the trier of fact to understand the evidence or determine a fact in issue; b) is based on sufficient facts or data; c) is the product of reliable principles and methods; and d) reliably applies the principles and methods to the facts of the case. *Daubert* established that trial judges serve a 'gatekeeper' function to determine that the proposed testimony is scientific and that it will assist the trier of fact. Expert testimony must relate to any issue in the case to be relevant and helpful. Further, the Court advised that federal judges, when considering admissibility, may review whether the proffered information is falsifiable, refutable or testable; whether the theory or technique was peer-reviewed or published; the known or potential error rates; and finally, as per *Frye*, has 'general acceptance' within the relevant scientific community.

### **LIMITED PROVISIONS': THE SCOPE OF EYEWITNESS EXPERT TESTIMONY**

Provisions surrounding the scope of eligible content to be discussed by eyewitness experts were set out in the voir dire of expert evidence in *Regina v. Henderson* (2009) (hereafter *Henderson*). In *Henderson*, the accused was charged with first degree murder in a shooting

case that relied heavily on four eyewitnesses slated to testify for the Crown. The Crown alleged that the accused and victim were involved in a dispute at a nightclub. Henderson later attended a party armed with a handgun and shot the victim twice at point blank range. Defence attorneys filed a motion to allow Elizabeth Loftus to testify on eyewitness evidence. However, the Crown opposed this motion on the grounds that sufficient instruction could be provided through a judicial caution on the frailties on eyewitness testimony. In the decision, Justice Sinclair acknowledged that jurors may overestimate the reliability and strength of eyewitness testimony and determined Loftus' testimony would be of desirable probative value. Justice Sinclair applied the Mohan test and concluded that Loftus would be eligible to testify, yet subject to limited provisions. Under these limits, Loftus was not permitted to comment on the reliability of any particular witness' evidence or on any case-relevant factors other than through general comments and hypothetical questions. Loftus was also not permitted to express an opinion on the validity, reliability or bias of the actual photo pack line-up in the case. She was permitted to testify on issues surrounding lineup administration and assessments of fairness. Henderson was convicted of first degree murder and received the mandatory 25 year imprisonment sentence. A subsequent appeal was denied in *Regina v. Henderson* (2012).

## **JUDICIAL CAUTIONS OF EYEWITNESS IDENTIFICATION EVIDENCE**

With the "ever-present risk of a miscarriage of justice" (*Regina v. Turner*, 2012, para. 110), courts recognize the need for procedural safeguards (PSs) in circumstances of trial-by-jury. However, the four-tiered Mohan test of admissibility has proven problematic for attorneys seeking to submit expert testimonial evidence. Numerous Canadian cases have developed a precedent for judges to opt for the use of a judicial caution: "instructions or warnings to a jury in criminal trials (that) arguably can provide a safeguard against erroneous convictions based upon unreliable eyewitness evidence" (Bromby et al., 2007, p. 305). This review will examine developments within Canadian law and findings from international research to illuminate the issues pertinent to understanding the current form of a model caution drafted by the Canadian Judicial Council (2012).

## **THE EPISTEMOLOGY OF EYEWITNESS TESTIMONY**

The study of knowledge is concerned with four broad questions: How do we get knowledge? What is the structure of knowledge, and is there anything that we cannot know? What necessary and sufficient conditions must be met for something to count as knowledge? To answer this last question, philosophers have leaned heavily on the traditional account of knowledge, which holds that knowledge requires three things: belief, truth, and justification. Thus, in order to know a proposition, one must believe it; the proposition must be true; and, to avoid lucking into knowledge, the belief in the truth of the proposition must be justified.

However, the traditional account of knowledge was shown to be inadequate in 1963 by Edmund Gettier, who demonstrated that, under some very peculiar conditions, one could have a justified true belief without it counting as knowledge (Gettier, 1963). Gettier put forward several thought experiments that take the same general form: First, someone acquires

a justified belief based on some evidence; however, it turns out that the evidence was misleading. But in a twist of fate, the original belief happens to be true for reasons unrelated to the initial justification. For example, imagine a professor who has a student in his class who always brags about owning a Ferrari, and one day he even shows the professor his ownership papers. The professor goes on to form the justified belief that a student in his class owns a Ferrari. However, it turns out that the student has a cousin with the same name who owns the Ferrari. But, unbeknownst to the professor, a quiet student who sits in the back actually does own a Ferrari. So, did the professor know that a student in his class owned a Ferrari? After all, he had a justified true belief. It seems wrong to say that the professor knew that at least one of his students owned a Ferrari because he came into this knowledge through sheer luck. In response to Gettier's counterexamples, there have been numerous attempts to fix the traditional account. Many approaches have been taken, from modifying it to abandoning it and proposing completely different accounts of knowledge. Nevertheless, on just about every contemporary epistemologist's view, believing a proposition is crucial to knowing it.

## **OBJECTIVE OF THE STUDY**

1. Traditionally courts have relied on two legal safeguards to educate jurors about the psychology of eyewitness identifications—judicial instructions and expert testimony.
2. In addition to testing traditional legal safeguards, I evaluated whether accompanying traditional expert testimony with visual aids would improve its effectiveness.

## **LITERATURE REVIEW**

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According to Colvin (2009), "A wrongful conviction is defined as a conviction of a person who was factually innocent" (p. 174). Based on Colvin's definition, researchers have distinguished between legal innocence—i.e., procedural error—and factual innocence. Factual innocence, as the term implies, suggests that someone other than the suspect has committed a crime of which the suspect has been accused. Legal innocence refers to a situation in which the State violated a defendant's rights and a conviction was overturned (Gould et al., 2010). A person who is convicted because of a procedural error may or may not have committed the crime. In other words, a legal defect in the criminal justice led to his or her conviction (Holmes, 2001). Wrongful conviction then means that errors by police and/or prosecution have taken place during criminal investigative and or judicial phases that have resulted in a suspect becoming a defendant in a criminal trial, being accused of a crime that he or she did not commit, and then being wrongly convicted of that offense. According to Gross et al. (2008), this conversion from suspect to defendant is often unintentional: "False convictions are accidents: a system we rely on daily goes wrong, with tragic results. Like other accidents, most false convictions are probably unintended, although they may be preventable" (p. 929). These "accidental" errors can turn into wrongful convictions easily when the court system fails to uncover systemic defects in the criminal justice process. As Colvin (2009) has pointed out, when courts fail to correct prior errors in an investigation and

make wrong decisions about whether a defendant committed the offense charged against him or her, a wrongful conviction may likely occur.

The American system of criminal justice is so large and has so many arrests each year that even if the system was 99.5% accurate, it would still generate more than 10,000 wrongful convictions each year for the eight serious index crimes alone (Huff et al., 1996: 22). It is likely that the error rate is even higher for less serious crimes, making it highly probable that wrongful convictions affect many Americans each year even though the overall error rate may be relatively small. (p. 183)

Some professionals have indicated that the current statistics about wrongful convictions are representative of a criminal justice system that is functioning well. However, this faulty logic, according to Kennedy (2004), impedes recognition, exposure, and correction of wrongful convictions. For example, Ramsey (2003) pointed out in his research that even if only 1% of defendants in America are wrongfully convicted (based on an incarcerated population of 2,000,000), 20,000 people would still be incarcerated for crimes they did not commit. “There is every reason to presume that the documented wrongful convictions are but a fraction of the true number of cases in which an innocent person was sent to prison for a crime he did not commit” (Bowman, 2008, p. 1502).

According to Gross et al. (2008), improvements in our understanding of wrongful convictions have come by studying exonerations, and based on this research, it has been shown that exonerations are unrepresentative of wrongful convictions overall.

One factor that has played an increasingly important role in illuminating the severity and frequency of the problem has been medical and scientific advancements in DNA evidence. According to Kahn (2010), increased awareness of wrongful convictions can be traced to the advancement of DNA testing and technology. Wrongful convictions, which once were considered isolated incidents or situations that seldom ever occurred, currently have been recognized as being much more prevalent than earlier believed.

Roach (2010) has indicated that between 1989, when the first DNA exoneration occurred, and 2003, a total of 245 exonerations based on DNA have taken place. The problem that the criminal justice system has faced is that the only wrongful convictions that can be positively verified are the ones in which the convicted person has been exonerated. Kahn (2010) noted that while DNA exonerations have demonstrated the ability of our government to correct its mistakes, they have also served as a ‘miner’s canary’ by shining a spotlight on the most serious and troubling flaw in the justice system—the unknown number of innocent individuals who remain imprisoned for crimes they did not commit. (p. 127).

Garrett (2008) has indicated that exonerations have altered the way people perceive the accuracy of the criminal justice system.

Kahn (2010) has pointed to yet another tragedy connected with wrongful convictions. In addition to the financial, psychological, and physical consequences connected with wrongful

conviction, the social stigma of being imprisoned—even wrongfully—makes it difficult for wrongfully convicted individuals to regain their reputations. Risner (2007) has noted that when wrongful convictions are the outcome of a court process, even in a petty criminal or quasi-criminal context, it not only inflicts pain on the moral conscience of citizens, but it also corrodes the respect for the law held by the wronged individuals as well as others who believe the convicted individuals were, in fact, innocent all along. Compounding the social cost of wrongful conviction is the fact that when an innocent person is convicted of a crime, the individual guilty of committing the crime escapes justice and may continue committing other crimes. In actuality, the initial criminal behavior is positively reinforced if punishment or negative consequences are not applied. Gross et al. (2008) have made the following observation

### **AGING WITNESSES: EXPLORING DIFFERENCE,**

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Both the investigation of a crime scene and the presentation of a case in court depend heavily on the testimony of witnesses. Witnesses may make or break a case. During the course of an investigation into a claim, witnesses provide the required information to the police about the events that took place as well as specifics that assist in directing the police to the individual who is accountable for the crime. During the course of the trial, witness testimony will offer the narrative that will be based in genuine facts and will be utilised by attorneys to recreate the events that are in dispute (Kaptein et al., 2009: 6). It should not come as a surprise to anybody that jurors put a lot of weight on evidence that was provided by eyewitnesses since witnesses play such an important role in both the investigation of crimes and the conduct of trials (Engelhardt, 1999; Fraser et al., 2011: 31). However, eyewitness stories are not always reliable. They are based on one person's interpretation of what took place and are thus subjective. Nobody has the exact identical experience of anything else with anybody else. The capacity of an individual to recall what transpired is influenced not only by the individual's qualities but also by the conditions of the event, the processes used to gather evidence, and the procedures used in order to process the data. These characteristics are classified as either estimator variables or system variables based on the findings of psychological research conducted in the field of eyewitness testimony (Wells, 1978).

System variables are elements that are within the jurisdiction of the criminal justice system, such as the manner in which an interview is carried out or the order in which a line-up is shown (Wells, 2011). On the other hand, estimator variables are external circumstances that are not within the control of the judicial system and that influence a witness's initial observations as well as their capacity to recall an incident. Estimator variables may include the circumstances surrounding an event (such as the length of time an individual was exposed to a suspect, sight lines, time of day, amount of light, amount of noise, complexity, and the presence of a weapon), as well as the personal characteristics of the witness and the defendant (such as age, vision, alertness, stress/emotion, opportunity to observe the crime, and the presence of a disguise) Eyewitness testimony may be argued for or against by attorneys who have understanding of the ways in which system and estimator variables impact eyewitness testimonies. These elements can be used to support or refute eyewitness evidence The old age

of a witness is one estimate variable that regularly influences eyewitness performance. In this work, we conduct a literature analysis on elder witnesses in the field of psychology and pose the overarching research question, "How are older witnesses different from younger witnesses?" In particular, this study inquires about:

- What physical and cognitive changes happen with age that can affect a witness's ability to observe, remember and recall an event?
- How do these physical and cognitive changes impact the collection of accurate and complete witness evidence from elders?
- Does old age alter the ability to give evidence in court?
- Are there any strategies that can enhance the reliability of the evidence of older witnesses?

In order to investigate these topics, this study will first conduct a research literature review on the physiological changes that are associated with advancing age. Alterations may occur in sensory organs as well as the structures that make up the brain as a result of the normal process of ageing. It will be more difficult to see and hear as a result of decreased sensitivity in the sensory organs. Both the mass of the brain and the frontal lobe of the brain atrophy as dementia progresses. These alterations have a detrimental impact on one's capacity to recall specifics of past occurrences. People afflicted with brain disorders such as dementia have a diminished or even nonexistent capacity for memory, depending on the severity of their disease. When taken together, these shifts may have an effect on a witness's capacity to perceive, store, and retrieve information. In the second part of our study, we investigate how the physical changes that occur in older persons affect the data that is collected from them. Interviews with witnesses and identification exercises using line-ups are the two basic methods that are used to obtain evidence.

## **PHYSICAL CHANGES**

The senses act as a portal between the internal memory processes of the brain and the wider, more external environment. When one or more of a person's senses become impaired, the information that they take in is encoded incorrectly, and they are unable to appropriately recall it afterwards (Davis and Loftus, 2006: 11-4). In general, one's age has a significant impact on their ability to perceive things. Hearing and visual problems become much more frequent beginning in one's forties, with irreversible impairments becoming more prevalent with advancing years (Scheiber, 2006: 129). Alterations made to the vision. Studies have shown that there is a decline in the number of rods and cones, the cells that are responsible for the dispersion of colour and light inside the eye, beginning around the age of 50. (Davis and Loftus, 2006: 11-6). This loss in rods and cones leads to a deterioration in visual acuity, which causes older persons to need anywhere from two to three times more contrast to be able to perceive things that are tiny or medium in size (Davis and Loftus, 2006: 11-6). When this happens, both the iris and the lens become less flexible, which makes it harder to judge

distances (Scheiber, 2006: 132). Because of the stiffening of the tiny muscles that govern the lens, people of advanced age also have a more difficult time adjusting their vision to varied lighting conditions (such as going from a high light to a low light environment) (Yarney, 2000: 130). The cumulative effect of these alterations to the eye results in a loss of acuity in vision, which is particularly noticeable in low-light settings or environments with minimal contrast (Schneider and Pichora-Fuller, 2000: 155).

## **COGNITIVE CHANGES**

As we get older, our senses become less sensitive, and as a result, the information our sensory organs take in from the outside world is less complete (Sporer and Martschuk, 2014: 4). In addition to this, they are competing with one another for limited cognitive resources within the brain. Because more of the working memory is being used to try to interpret what the eyes and ears are seeing and hearing, there is less of it left over to give significance to the sensory information and store it in memory (Thomas et al., 2014: 310). According to the 'Speed of Processing Model,' as one gets older, it becomes increasingly difficult to interpret information of lower quality that is received from the sensory organs. Because of this delay, a significant amount of sensory information is discarded before it can be encoded into memory (Thomas et al., 2014: 310). This slowdown in processing speed in older adults is attributed to an inability, according to a related theory, to inhibit information that is irrelevant to the task at hand. This theory, which has been given the name the "inhibitory deficit hypothesis," proposes that age-related decreases in processing speed are the result of scarce cognitive resources being overloaded by irrelevant environmental details, personal memories or concerns, and goal-irrelevant interpretations of events (Thomas et al., 2014: 310). These cognitive changes are linked to a decrease in episodic memory, which is the recollection of experiences and occurrences from a person's own past (LaVoie et al., 2014: 192). Episodic memories, as opposed to semantic memories (memories for facts and language), are contextual in nature and require linking together a number of separate pieces of information such as time, context, environment, personal feelings, and so on. Semantic memories are memories for facts and language. The nature of witness testimony is to be episodic because it requires the retelling of an event from one's own past and is therefore episodic. There are two primary hypotheses that attempt to explain why episodic memory is more susceptible to deterioration in older adults than semantic memory. The first issue is that the slower processing speed makes it impossible to bind together the separate occurrences that comprise an event. Because of this, information is not stored in a coherent manner, and what is typically remembered is not the unified representation of the event; rather, separate pieces of information are remembered in isolation. As a consequence of this, memory is not reliable. Regrettably, an increased propensity for memory errors is associated with the ability to remember these components individually but not how they are related to one another (LaVoie et al., 2014: 205).

## **RECALL TASKS**



These studies examined eyewitness recollection by having participants see a staged incident (either live or on a video), and then, after a period of time had passed, the participants were questioned about what they recalled about the event. Older mock witnesses showed a weaker recollection for information relevant to the incident, the culprit, the victim, what transpired, and the setting where the fake crime occurred, as comparison to younger witnesses (Yarmey and Kent, 1980). According to the findings of one research, older persons are, on average, 20 percentage points less accurate in their free memory, 13 percentage points less accurate in their cued recollection, and 15 percentage points less thorough in their descriptions of the offender than younger ones (Wilcock, 2010: 133). Another research that looked at the differences between the various interview formats revealed that younger individuals remembered twice as many specifics than older adults, regardless of the kind of interview that was utilised (Searcy et al., 2001). In a research conducted in 1984 by Daniel Yarmey, mock witnesses were presented a slideshow depicting a simulated sexual assault. The results of the study provide a worrisome illustration of the sorts of inaccuracies that may be made by seniors (Yarmey, 1984). The ages of the younger fake witnesses ranged from 18 to 36 years old, while the ages of the elder witnesses ranged from 65 to 84 years old.

## **EYEWITNESS RECOGNITION**

If a person's identification is in question (for example, if a witness does not know the suspect), then that person will be expected to pick out the individual they saw in a line-up from a group of other people. Two distinct approaches are used during the identification testing that takes place in the laboratory. Participants watch a simulated crime (on a video, slideshow, or with live actors) and are then asked to identify the perpetrator from a lineup where either the target is included in the line-up (referred to as a "target present line-up") or the target is not in the line-up (referred to as a "target absent line-up"). The second paradigm asks participants to identify the perpetrator from a lineup where the target is not in the line-up. In the target present line-up, the witness's ability to identify a previously seen person is put to the test. In the target absent line-up, on the other hand, a scenario in which the police's suspect is actually innocent is simulated, and the witness's willingness to indicate that the perpetrator is not in the line-up is evaluated.

## **ATTRITION**

It is possible that the setting of a trial date will take many years, depending on the nature of the claim and the complexity of the case. One elderly litigant expressed their frustration by saying, "It took a few seconds to rob me, but it took more than a year to go to justice." There is an obvious problem with the system (Finkel and Macko, 2000: 106). The senior population is disproportionately impacted by these wait periods because of the increased likelihood that they would experience cognitive impairment or pass away before a case is brought to trial (Adams and Morgan, 1994; Wasarhaley and Goldring, 2013). In the event that elderly people pass away or are unable to pass the test for competence because of severe cognitive impairment, they will no longer be permitted to testify in court in person. Their witness testimony is now considered hearsay, which, under common law, is presumed to be

inadmissible evidence. Given the increased likelihood that seniors may be unable to provide their testimony at trial, it is of the utmost importance that any pre-trial remarks made by seniors be preserved in a way that will enable them to pass the applicable legal standard for the admission of hearsay evidence.

## WASHINGTON LAW REVIEW

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The vast majority of parents will agree that young children have an uncanny capacity to appear in bizarre locales at the most inopportune of times. Children are often at the right place at the right moment to see people, things, and experiences that adults are never in the right place or the right time to see. They often pick up on things that adults may have believed were spoken in confidence or that may have been stated because they believed there were no witnesses. This is something that we have learned through experience. Even while this faculty is most of the time little more than a minor cause of frustration for the adults in the family, it has the potential to have a significant influence on the result of some judicial proceedings. The youngster has a propensity to wander, and as a result, he often ends himself in dangerous, out-of-the-way areas, where he runs the risk of having criminal acts perpetrated against him. As a consequence of this, the youngster may end up being the only witness the state may use in order to successfully prosecute a crime. The prosecution attorney will then be confronted with the challenging challenge of showing that the kid is competent to testify in court. For all intents and purposes, it will be important to evaluate whether or not his evidence will advance the cause of justice or whether it will only stand in the way of its completion. '

## CONCLUSION

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The prosecution and the defence both need to have a comprehensive understanding of the case in order to determine which pieces of evidence should be scrutinised during the trial. Because this information comes from a famous witness who is unwilling to testify because they are afraid, becoming hostile undermines the purposes of justice. When a party feels the need to impeach its own witness, it is a reflection not just on the witness but also on the system. This is because the system suffers from a lack of proper legislative and adjudicatory measures, which is responsible for the necessity. <sup>74</sup> Discrediting a witness who, if they had testified honestly, may have led to a more expeditious trial is often done by a party in an effort to protect its own reputation. It justifies the beginning of recurring instances of a system that would ultimately result in judicial failures. Corruption and prejudice, together with the beginning of the process of nullifying the impacts of testimony, produces a chaotic environment in which systematic judicial trials tend towards those methods that the legal system would not have normally considered. The level of security afforded to the witnesses at this time must be significantly increased from what it already is. It is imperative that stringent legislation protecting witnesses be enacted, with the requirements of witnesses in our system being taken into consideration. In order to prevent the witness from becoming hostile, stringent restrictions are a must in this day and age. In addition, the media bears a significant

amount of responsibility. They need to avoid sensationalising the problems and instead make an effort to offer a constructive and analytical assessment of events of this kind instead.

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