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A SURVEY OF OCCUPATIONAL INCIDENT INVESTIGATORS: THE ROLE OF PEOPLE EVIDENCE

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THE ROLE OF PEOPLE EVIDENCE**

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- In November of 2005 our research team received funding from the British Columbia Environmental and Occupational Health Research Network (BCEOHRN) to undertake a project considering the human elements of industrial incident investigation.
- Hundreds of studies exploring eyewitness memory for crimes have demonstrated that eyewitness memory is error-prone.
- Little is known about the psychological factors involved with eyewitness memory for occupational incidents.
- Our project surveyed industrial investigators from across Canada and from a number of different industry sectors.
- Our mission was to establish how occupational incident investigators handle information provided by witnesses and victims.
- Our rationale for polling investigation professionals was to allow those who actively investigate adverse workplace events and intimately know the issues to inform our research.
- Our data has been, and will continue to be, used to guide researchers in conducting additional scientific studies aimed at gaining a better understanding of the psychological variables involved in industrial investigation.
- For brevity's sake we have provided you, the investigator, with those findings from the project that we anticipate you will find the most useful.

Demographics

Participants:

- 185 workplace investigators,
- Predominantly male (78%),
- Averages:
 - Age: 46
 - Years of investigative experience: 13 years
 - Investigations conducted per year: 22

Type of Industry:

- Primary resources, manufacturing, construction and the service sector had the strongest representation of investigators.

| Industry | Frequency | Percent |
|--------------------------------|-----------|---------|
| Manufacturing | 51 | 28 % |
| Service Sector | 40 | 22 % |
| Primary Resources | 32 | 17 % |
| Construction | 24 | 13 % |
| Regulatory (e.g. TSB, WCB) | 17 | 9 % |
| Transportation and Warehousing | 10 | 5 % |
| Public Sector | 9 | 5 % |
| Retail | 1 | 0.5 % |
| Training | 1 | 0.5 % |
| Total | 185 | 100% |

Type of Training:

- Investigators reported receiving investigation training from sources internal and external to their organizations.
 - Of the 100% of investigators who responded we found the following percentages:
 1. *Internal:* Investigators reported that they received courses from in-house personnel or gained experience through on-the-job activities. 30%
 - i. Internal training: Safety training from internal courses or experts. 23%
 - ii. Experience: Safety knowledge from tacit work experience(s). 11%
 2. *External:* Investigators attended training courses offered by other organizations or obtained education from post-secondary institutions. 92%
 - i. Safety Instruction: Safety training by an outside agency (courses, seminars, conferences by DNV, AIHA etc.). May or may not include certification. 84%
 - ii. Post-secondary: Courses, degree, or diploma from a post-secondary institution. (e.g. BCIT). 25%
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People Evidence

Definition: Information communicated by people who were either involved in the incident/near miss, witnessed the event, or were interviewed because they may have intimate knowledge of the event (Det Norske Veritas, 2005).

The Value of People Evidence

- Investigators use a number of different information sources in their investigations (e.g., people, site, documentation).
- Investigators frequently use these pieces of information in conjunction with one another to verify information's accuracy and to establish a probable sequence of events.
- We were specifically interested in the value and use of information from witnesses and victims and found that it is highly used and valued.

Investigators reported that during the last 5 years:

- 83% of investigations used people's reports.
- 60% of all evidence used is people evidence.
- 86% of investigators rated people evidence as either very important (61%) or important (25%).
- 74% of investigations use peoples' reports as the first piece of information in the investigation.

Collecting People Evidence

- The prominence of people evidence in investigations led us to query how it is collected.
- Interview protocols found in the psychological literature provide recommendations to questioners that can facilitate interviewee recall and minimize the distortion of information obtained from a witness.
- This section focuses on the collection of people evidence and demonstrates that investigators report questioning techniques consistent, as well as inconsistent, with those recommended in the interview literature.

Interview Logistics

Where

- Investigators can facilitate putting interviewees at ease by questioning them in a neutral environment (e.g., the coffee room rather than the office of their superior).
- The following table outlines investigators reporting of where: (i) questioning typically happens and (ii) it happens the most frequently.

| Location | % of Investigators Reporting Where Interviewees Are Questioned | % of Investigators Reporting Where Interviewees Are Questioned the <i>Most Frequently</i> |
|------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| At the incident site | 79% | 52% |
| In the investigator's office | 59% | 25% |
| In another location | 33% | 21% |
| Over the phone | 29% | 3% |

Note: Percentages in the "Where Interviewees Are Questioned" column do not add to 100% as investigators could select more than one location.

When

- Interviewing a witness/victim shortly after the incident limits decay of the memory. Questioning in a timely manner also limits memorial distortion as the interviewee has less opportunity to encounter information that may alter their recall.
 - 87% of investigators reported that *witnesses* are questioned approximately 3 hours post-event.
 - 13% of investigators reported that *witnesses* are questioned approximately 1 day post-event
 - 79% of investigators reported questioning *victims* approximately 5 hours post-incident
 - 21% of investigators reported that *victims* are questioned approximately 1 day post-event

Interview Methodology

- The interviewing literature suggests that questioners build rapport with the witness as well as use non-leading, open-ended questions followed by probing of information freely mentioned by the interviewee in his/her narrative. The questioner should not interrupt the witness during recall (Fisher & Geiselman, 1992).

Rapport Building

- 95% of investigators reported that it is critical (50%) or important (45%) when beginning discussions with people about the incident to address topics such as who the investigator is, what they are doing, and general information about the interviewee.

Questioning: General

- The questioning techniques outlined below are *methods* of questioning, thus, investigators may use these methods to query any number of different topics with people involved in an incident (e.g., personal information, event information etc.).
- We identify below those techniques that are recommended in the literature.

Questioning Methods

| Question Type | % of Investigators Who Use it | % of All the Questions Used |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| <i>Open-Ended Questions (Recommended)</i> | | |
| Questions that begin with who, what, when, where, or why and ask witnesses to discuss what they saw, heard, and felt, e.g. What happened during the incident? | 97% | 37% |

| Question Type | % of Investigators Who Use it | % of All the Questions Used |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| <p><i>Probing Questions Type A (Recommended)</i></p> <p>Questions based on information provided by the employee the investigator is interacting with that probe for more specific information about the incident using who, what, when, where, or why, e.g. You mentioned you were having trouble with the lever, what trouble, specifically, were you having?</p> | 96% | 27% |
| <p><i>Probing Questions Type B</i></p> <p>More targeted questions based on information gathered from sources such as the investigator's personal expertise, other witnesses, or physical evidence. These questions are aimed at revealing information that the investigator has a hunch about but the interviewee has not mentioned, e.g. Did you notice if the lever was up when you passed the machine earlier that day?</p> | 94% | 20% |
| <p><i>Verification Questions</i></p> <p>Questions designed for a one word, "yes" or "no" response, e.g. Did you see Bill move towards the door before the alarm went off?</p> | 92% | 16% |
| <p><i>Miscellaneous Question Types</i></p> <p>e.g. "Just letting them talk"</p> | 15% | 25% |

- 83% of investigators reported that when they would like more information from the interviewee they wait until the subject has finished telling them everything they can about the entire event and then ask the question.

Misleading Interviewees

- Investigators reported that approximately 19% of interviewees attempt to mislead them.
- 83% of investigators reported that their interview technique always (13%), usually (41%), or occasionally (29%) changes if they are interviewing someone who they believe is providing them with false information.
- Investigators reported a host of ways that their interview technique changes with a deceptive interviewee. The primary method of change reported was the type of questions asked (61% of investigators)¹.

Repeat Questioning

- Investigators reported that 55% of interviewees are interviewed more than once (an average of 2.39 times).

Interviewee Credibility

- 100% of investigators reported that they find information provided by the people in their investigations as credible (68% somewhat credible and 32% extremely credible).
- 64% of investigators stated they have a method of establishing credibility.
- 5 methods were reported ranging from techniques employed in the interview to methods external to the interview¹.

Investigative Deductions

- The following table depicts the causes of incidents and near misses reported by investigators over the last 5 years.
- The primary cause of workplace incidents identified by investigators was estimated to be the cause of approximately 68% of all the incidents they have investigated in the last 5 years.

¹ The changes to investigation protocol described by investigators are not expanded upon in this document as they are unverified investigation techniques that require further exploration.

| Cause | % of Investigators Reporting This as a Cause | % of Investigators Reporting This as the Primary Cause |
|----------------------------|-------------------------------------------------|-----------------------------------------------------------|
| Human Error | 84% | 37% |
| Management Issues | 73% | 20% |
| Insufficient Training | 89% | 19% |
| Safety Culture | 71% | 10% |
| Insufficient Supervision | 79% | 8% |
| Other | 11% | 7% |
| Faulty Equipment/Machinery | 68% | 0% |

SUMMARY

- This information was collected from a broad cross section of the investigative community. Investigators from a variety of backgrounds and a host of industry sectors participated.
- People evidence was reported to be highly valued and used.
- Investigators reported interviewing techniques recommended by the literature, as well as, questioning methods which may facilitate erroneous recall.
- Investigators reported that interviewees in their investigations are credible. However, when investigators encounter interviewees that they believe are deceptive they tend to alter their interviewing protocol.

CONCLUSION

- The findings in this document are a snapshot of some of the opinions and methods employed by industrial investigators. Our results revealed that investigators reported engaging in a number of beneficial activities when interacting with witnesses, however, our findings also highlight areas where psychological research may facilitate investigators' investigative practice.
- We would like to thank everyone who participated in this research and the Canadian Society of Safety Engineering (CSSE) for supporting us in recruiting participants.

CONTACT

Below is the contact information of the research team. We welcome your feedback; please do not hesitate to contact us should you have any questions, concerns, or general comments regarding our findings.

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