

Research proposal: violence risk assessment for taxi drivers



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Title of research proposal: Admission Test for Taxi Drivers

Executive Summary

Taxi drivers experience one of the highest levels of work-place violence which has negatively impacted their mental health. This has led them to adopt unsafe driving practices, compromising passenger safety. The current measures used to combat this, such as installing security cameras, have had dismal results and do not actually provide any preventative measures of safety. I propose the use of violence risk assessment via a simulation. The test could be used to help companies identify who has low or high threat perception and provide those in need of extra help training. This will likely reduce work-place violence as it helps drivers identify problematic environments and behaviour so they can remove themselves from that situation before it can turn harmful. Reliability will be measured by looking at the simulation's internal consistency and parallel-forms reliability by comparing a participant's performance on each of the items and comparing the performance of participants on each of the tests. Validity will be evaluated by comparing the results of trained and untrained groups and by looking at predictive validity by looking at their work-place violence the following year.

Aims and Significance

Taxi drivers experience very high levels of work-place violence. In fact, Castillo & Jensen (1994) have found that taxi drivers have the highest levels of work-related homicide, 40 times higher than the rate for all other occupations. Another study conducted by Davidson, Wadley, Reavley, Gunn, & Fletcher (2017) found that taxi drivers are exposed to more traumatic events, where 29% have been mugged, held up or threatened with a weapon and 15% have been badly beaten up. This results in high levels of occupational stress (Useche, Cendales, Alonso, & Serge, 2017), which leads to high levels of psychological distress. <https://assignbuster.com/research-proposal-violence-risk-assessment-for-taxi-drivers/>

distress (Davidson et al., 2017). Drivers who are under a lot of psychological distress have higher risks of traffic accidents, aggressive driving and fatigue (Santos & Lu, 2016).

Sixty-two percent of Australian taxi-drivers experience very high or high levels of psychological distress, which is five times higher than other Australian men (Davidson et al., 2017). Psychological distress is characterised as a state of emotional suffering and is often identified through anxiety and depressive-like symptoms (Arvidsdotter, Marklund, Kyngäs, Taft, & Ekman, 2015). Work-related factors, such as high-demands, poor support, stress and exposure to aggression contribute to psychological distress (Arvidsdotter et al., 2015; Dursun, & Aytac, 2017).

Therefore, workplace violence can be detrimental to the mental and physical well-being of taxi drivers, which can result in unsafe driving practices, compromising passenger safety. This can cost corporations a lot of money in legal fees (for lawsuits etc.) and puts both drivers' lives and consumers lives at risk. Despite the well documented evidence of the high rate of workplace violence, it seems that taxi drivers have not undertaken any safety training. Therefore, the proposed test will address the taxi company's failure to assess and train their driver's violence risk assessment by assessing their ability to quickly identify problematic behaviours in potential passengers.

Background

Presently, there are no existing measures evaluating a taxi driver's violence assessment ability. However, there have been other preventive measures in place to try and reduce violence against taxi drivers, like security cameras and distress buttons. The aim of these preventative measures is to get the perpetrators to think twice about their actions (Lincoln & Gregory, 2015). Nevertheless, it has been found that these measures can make these situations escalate (Lincoln & Gregory, 2015). These measures also do not provide a

actual safety to the drivers, just physical evidence that an attack (whether physical or verbal) happened. Interviews with taxi drivers evaluating their health and safety strategies suggests that taxi drivers learn safety strategies through experience (Burgel, Gillen, 2012). However, this type of learning has been found to be slow, unpredictable and counterproductive (Reid & Barrington, 1999).

In other industries, such as law enforcement and health care, self-report questionnaires and written scenarios have been used to assess the participant's knowledge, skills and attitudes towards managing and identifying potentially violent people (Grenyer et al., 2004; Storey, Gibas, Reeves, & Hart, 2011). In Greyner et al.'s (2004) study, participants rated their knowledge, skills and attitudes towards managing aggression and confidence in dealing with aggression pre and post training. To test their competence post-training, participants were required to write how they would respond to an aggressive work-place scenario. The results showed that, post-training, skills and knowledge improved, there was an improvement of attitudes towards identifying and dealing with violent patients and an increase in confidence. However, the only psychometric properties assessed in this study was content validity, and only internal reliability for the confidence measure, and inter-rater reliability. Subsequent research has suggested that high confidence levels may not be a good thing, as they can overestimate their abilities and, unknowingly, put themselves in harmful situations (Storey et al., 2011). These findings are relevant to the current context because the rates of work-related violence that law enforcement officers and health care professionals is similar to that of a taxi driver (Storey & Jenkins, 1994). Additionally, these measures are used to predict violent behaviour in individual people and not a group, which is what taxi drivers would be trying to do.

Studies on the competence of written simulation have shown low levels of internal consistency, which lead to difficulty in discerning its validity (Swanson, Norcini, & Grant, 1987). They suggested that the only real advantage of written simulations over stan-

multiple-choice tests is increased face validity. Another issue with written simulation is that it does not emulate real life situations. In fact, doctors completed vignettes, simulated case histories, and had to decide whether to provide them a reference, this was compared to their actual referral rates (Morrell & Roland, 1990). The study had high face validity but was unsuccessful in predicting their actions as there was no correlation between what they would do and what they actually did. Suggesting that these types of tests have low reliability and therefore very low validity (Morell & Roland, 1990). Although, written simulations are cheaper and faster to administer, they have really low reliability and validity (Morell & Roland, 1990) and therefore, presenting these scenarios in a manner that mimics a real-life work environment may improve these psychometric properties.

It has been suggested that having an authentic real-life simulation has aided in learning necessary skills (Schuwirth & Van der Vleuten, 2003). If constructed correctly; by having short real-life scenarios (to ensure it is not too structured) and include many different observations (so it does not seem trivial) will increase the measure's reliability and validity (Schuwirth & Van der Vleuten, 2003). In comparison to written simulations, real-life simulations have been found to be effective in assessing neurologist's communication skills in ethical dilemmas and enhancing the skills of clinicians while also giving them a safe environment to make errors (Akaike et al., 2012; Harnof, Hadani, Ziv, & Berkenstadt, 2012). They have also been found to be indicative of actual performance, demonstrating that they are valid (Devitt et al., 1998). They have especially strong discriminant validity and internal consistency (Devitt et al., 1998) and quite high inter-rater reliability in clinical performance (Gordon, Tancredi, Binder, Wilkerson, & Shaffer, 2003). To have an effective simulation, the participant needs to understand the training requirements, there have to be good, clear instructions, feedback is readily available for the participant, scenarios must be crafted to build on previous learning outcomes in mind (Salas, Wilson, Burke, & Priest, 2005). Therefore

simulation will be able to evaluate a taxi driver's skills at identifying threats and will be more reliable to use than the standard written simulations. Simulations have been used extensively in the health/medical industry, where it is mainly testing and training professionals. In the health practitioners, it has yet to be used in evaluating skills of other professions that require it for the sole reason of safety, like the taxi industry.

Proposed Test/Test Battery and Rationale

I am proposing a test to measure a taxi driver's violence assessment through an online simulation. This will be an interactive simulation where frequent situations encountered by taxi drivers will be acted out by confederates. These scenarios will include all different types of settings (for example, a busy street filled with people or driving late at night) and types of people/passengers (for example, someone completely inebriated or someone acting suspiciously). Participants will have to identify who is a possible threat to them by identifying the possible risks in their surrounding environment by using a mouse and clicking on the possible threats/risks. How fast and accurately the participant clicks on the potential threats will be recorded. Using this method of real-life situational matters will alleviate the reliability and validity issues found in written simulations. And will provide participants an accurate measure of how quickly they actually are at perceiving a threat, and not how accurately they think they are at perceiving and identifying a threat. However, there are other practical applications for this measure that include; using this as an entrance test for taxi drivers – so before they can operate they have to pass this test – those who don't do well can be provided extra training, it can be used in other disciplines (but have to change the scenarios) and it can be used as a self-defence tool to help people (especially women) to identify a threat quickly so they can try and remove themselves from that situation. Because it is online it is easy to use.

accessible and affordable.

Study Design

Participants and Design:

Sixty taxi driver applicants will be recruited through Yellow Cabs. They will be rewarded \$25 for their participation. Participants who have received training in violent assessment outside of this study will be excluded. The current study will split the taxi driver applicants into two conditions; with training and without training and their performance on the perception test will be measured by calculating the reaction time and accuracy of the test on the identification of possible threats. To avoid practice effects, participants will complete two versions of the same test (ensuring that the stimuli are equivalent to each other) and half the participants in each condition will see the first version and the other half will see the second version.

Measures:

To measure violence risk assessment, two different online simulations will be implemented. There will be 20 scenarios for each simulation, so 40 altogether. Each one filmed in a different time, setting and will have different types of people who are the perpetrators. These scenarios will be short, realistic, and ranging in difficulty. These scenarios will be evaluated by experts to see if they are realistic, common scenarios a taxi driver may encounter. Their perception of violent risk will be assessed by how quickly and accurately they identify the risk. Misses will also be accounted for (for example, just clicking anywhere on the screen). In the end, their accuracy rates will be averaged, and they will be given feedback on how they did.

Procedures:

Participants will be tested individually on separate computers. The first group of participants will receive violence risk assessment training, provided by professional, outlining how to identify potentially threatening people, it will be tailored to suit the taxi driver's environment. Because most taxi drivers are from multicultural background (Davidson, 2017), translators will be provided in order to aid with the training. The instructions for the simulation itself can be changed by changing the language. After the training, participants will do the online simulation. The second group of participants will have no training and do the online simulation. A year after they complete the simulation, violent incidents of both groups will be recorded and compared to the violence incidents of taxi drivers who have been driving for a year but have not completed the simulation.

Test Evaluation: Assessment of Reliability and Validity

Reliability Estimates:

It is predicted that if this measure has high internal consistency, it means that the participants are getting consistent results across the different items in the simulation. Suggesting that the items are positively correlated with each other. This will be measured using Cronbach's alpha, an alpha of .7 and over will demonstrate high reliability estimates. It is also predicted that this simulation will have high parallel-forms reliability. So, the two tests will have a significant positive correlation with each other. As I am giving two different versions of the test to both trained and untrained taxi driver applicants, this should yield a good reliability estimate.

Validity Estimates:

If this measure is an accurate representation of violent risk assessment ability, then scores of the trained and untrained taxi driver applicants will vary, wherein trained participants will be quicker and more accurate than untrained participants. So, this r of contrasted groups will be used to evaluate the construct validity of this measure. second validity measure that is going to be used to evaluate the validity of this simu concurrent validity. To evaluate if this test has adequate criterion validity, predictive will be measured. So, if the measure has adequate predictive validity, taxi drivers who more accurate in identifying threats will have lower rate of violent encounters than the normal taxi driver population.

Conclusions

A tool for violent risk assessment has been designed in order to gauge a participant's ability to quickly and accurately identify a possible threat. This measure was designed to address the very high work-place violence taxi drivers have to endure from passengers, which has detrimental consequences on their mental health and can cause them to enact unsafe driving practices, compromising their safety and passenger safety. This online simulation will help taxi companies identify who needs training in violent risk assessment. This will help taxi drivers identify who will be problematic and possibly harmful before it reaches that stage where they could be susceptible to actual harm. Finally, the online presentation of the simulation allows it to be accessible for anyone with an internet connection which can help taxi companies have high safety standards without it costing a lot of money to admit

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