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Public bus passenger safety evaluations in Ghana: A phenomenological constructivist exploration

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ABSTRACT

Notwithstanding the growing body of literature that recognises the importance of personal safety to public transport (PT) users, it remains unclear what PT users consider regarding their safety. In this study, we explore the criteria PT users in Ghana use to assess bus safety. This knowledge will afford a better understanding of PT users' risk perceptions and assessments which may contribute to theoretical models of PT risk perceptions. We utilised phenomenological research methodology, with data drawn from 61 purposively sampled participants. Data collection (through focus group discussions and in-depth interviews) and analyses were done concurrently to the point of saturation. Our inductive data coding and analyses through the constant comparison and content analytic techniques resulted in 4 code categories (conceptual dimensions), 27 codes (safety items/criteria), and 100 quotations (data segments). The vehicle condition, driver's marital status and transport operator's safety records were the most important criteria participants use in assessing bus safety. These findings imply that investment in, and maintenance of safer vehicles, and responsible and safety-conscious drivers, and prioritisation of passengers' safety are key-targets for public bus/minibus operators in Ghana.

1. Introduction

Road traffic accidents are both a public health problem and developmental issue, with a global cost estimated at 3% of Gross Domestic Product (GDP). The impact is even higher (5% of GDP) in developing countries (Dahdah & McMahon, 2008). In Ghana, the cost of road traffic accidents is estimated at 1.6% of GDP (Ackaah, Afukaar, Agyemang, & Debrah, 2008).

According to the World Health Organisation (WHO, 2015), global road traffic deaths remains a serious problem with no sign of actual decline. Particularly worrying is the incidence of public bus/minibus accidents in low and middle-income countries (Barua & Tay, 2010; Hamed, Jaradat, & Easa, 1998; Iles, 2005). In this study, we will consider bus and minibus together as they are comparable. For instance, in Ghana, official bus and minibus road accident statistics are merged (considered together) and reported. In these countries, public bus/minibus passengers are a significant road user group at risk of road traffic accidents (Odero, Khayesi, & Heda, 2003). Nevertheless, buses and non-motorised transport modes form the backbone of mobility in the cities in low and middle-income countries (Hamed et al., 1998; Mohan, 2016).

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According to the 2014 report on road traffic accidents in Ghana, pedestrians (38.8%), motorcyclists (19.4%) and bus/minibus occupants (17.5%) continue to be the road users with the highest fatality numbers, even though the 2014 fatality figures for pedestrians and bus/minibus occupants witnessed 1.9% and 2.4% reductions respectively (National Road Safety Commission (NRSC), 2014).

For the period 1991–2014, 378,015 vehicles were involved in road accidents in Ghana. Of this number, 90,206 (23.9%) were public transport (PT) vehicles (buses and minibuses). Additionally, bus/minibus accidents accounted for 35.7% (n = 117,139) of the total recorded casualties (N = 327,994) nationwide, which increased consistently from 2706 in 1991 to 5594 in 2011 (a 48.4% increase over the 20-year period), and thereafter reducing to 3996 in 2014 (NRSC, 2014). Having adopted the UN Decade of Action for road safety, road safety in the country received a renewed focus (i.e. road safety management, safer roads and mobility, safer vehicles, safer road users, and post-crash response). Accordingly, a number of interventions have been implemented by road safety stakeholders, including increased road safety campaigns in the media, bus driver education, enforcement of bus safety standards, and monitoring of bus service operations (Sam & Abane, 2017).

1.1. Objective

Extensive research on PT users has revealed a plethora of needs/expectations related to quality and efficient PT system comprising safety and security assurances, service frequency, vehicle cleanliness, spacious buses, fare affordability, comfort (both on board the vehicle and at the terminals), shorter waiting and travel time, extensive network coverage, seat availability, bus reliability and punctuality, convenient bus schedules, and service responsiveness and complaint handling (Sam, Hamidu, & Daniels, 2018; Le-Klähn, Hall, & Gerike, 2014; Eboli & Mazzulla, 2008; Cantwell, Caulfield, & O'Mahony, 2009; Kittelson & Associates, 2003; Friman, 2010; Chen & Lai, 2011; Sam, Adu-Boahen, & Kissah-Korsah, 2014; dell'Olio, Ibeas, & Cecin, 2011; Shitfan & Sharaby, 2012).

Le-Klähn et al. (2014) categorised PT users' needs into travelling comfort (related to vehicle space, vehicle cleanliness, seat availability, comfort at bus stops and safety on board) and service quality (related to service punctuality, reliability, and frequency, convenient bus schedules, and network connection). Similarly, Eboli and Mazzulla (2008) identified basic (e.g. punctuality, service frequency and coverage) and non-basic (e.g. vehicle cleanliness and driver courtesy) service attributes (needs). They argue that low levels of the basic attributes can compromise overall PT service quality.

Accordingly, Iles (2005) suggested that these needs/expectations "should be the first responsibility of a transport undertaking to its customers" (p. 379).

A growing body of literature recognises the importance of personal safety to PT users, and their behavioural adaptations (i.e. behaviour change to compensate for changes in perceived risk) to PT unsafety (Aidoo, Agyemang, Monkah, & Afukaar, 2013; Backer-Grøndahl, Fyhri, Ulleberg, & Amundsen, 2009; Forsblom, 2002; Sam, et al., 2014; Chen & Lai, 2011). As Joewono and Kubota (2006) rightly argue, the safety (and security of) PT operations is very important as PT relates to human lives on a larger scale.

In their study, Aidoo et al. (2013) argued that bus safety record is the most important determinant of overall PT service quality in Kumasi, Ghana. Similarly, Sam et al. (2014) noted that perceived PT safety influenced PT operator choices.

Furthermore, Backer-Grøndahl et al. (2009) studied the effect of worry about accidents and unpleasant incidents on PT users' behavioural adaptations. They revealed that worry about accident (unsafety) resulted in one of three behavioural adaptations: travelling at a different time, choosing another route, or another mode of transport. Chen and Lai (2011) also noted that where passengers are not assured of their safety, they tend to rate poorly PT service quality satisfaction. Yet, it remains unclear what exactly it is that PT users consider when they make assessments of their personal safety on PT. In fact, to date, there is no scale available to measure PT users' safety assessments. As a first step in the process of scale development, our major aim was to identify by means of qualitative techniques what could be considered as relevant conceptual dimensions and underlying items of a yet-to-be-developed scale for the assessment of personal PT safety. This knowledge will afford a better understanding of PT users' risk perceptions and assessments which may contribute to theoretical models of PT risk perceptions (Hitchcock, 2000; Currie, Delbosc, & Mahmoud, 2010). Transport risk perceptions, in turn, have been shown to influence travel behaviour (e.g., travel mode choice) (Rundmo, Nordfjærn, Iversen, Oltedal, & Jørgensen, 2011).

The remaining part of the paper proceeds as follows: Section 2 discusses the epistemological and theoretical perspectives (i.e., phenomenological constructivism) underpinning the study. Following from that, we present the study methodology (Section 3), findings (Section 4), discussion (Section 5), practical implications (Section 6), and limitations and future research (Section 7).

2. Epistemological perspective

Given the lack of empirical as well as theoretical research on the topic under study (i.e., assessment of personal safety on PT), and the specificity of the geographical context (i.e., PT in Ghana), we adopted a qualitative-inductive research epistemology (Gray, 2004). More in detail, we applied a phenomenological constructivist perspective.

A phenomenological constructivist perspective tries to understand and explain social reality from the social actor's perspective (Burrell & Morgan, 1989). The belief is that any attempt to understand social reality (in this case, bus safety) has to be rooted in the social actors' (in)direct experiences of that social reality. Hence, knowledge (i.e. truth and meaning) is a