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Motorcyclist characteristics and traffic behaviour in urban Northern Ghana: Implications for road traffic accidents

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ABSTRACT

This study examines how motorcyclist characteristics influence their road traffic behaviour and its implications on road traffic accidents in Wa, a rapidly urbanizing city in North-western Ghana. The results reported in this study is based on data collected from multiple sources including randomly administered questionnaire to motorcyclists and stakeholder interviews with Officials of road traffic and safety institutions. Our results show that age, occupation and ownership of motorcycle were significantly associated with wearing-helmet. Again, age and alcohol use was found to have a significant relationship. The number of road traffic accidents and deaths were related to road traffic behaviour of motorcyclist. We argue that the trend is likely to continue and perhaps escalate unless an intensive and well coordinated road traffic education on safe traffic behaviour is adopted and efficiently implemented and complemented with strict law enforcement.

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1. Introduction

Statistics from the World Health Organization indicates that approximately 3000 people die from road traffic accidents around the world each day and two million people die worldwide every year (WHO, 2008). Projections are that by 2030, deaths resulting from road traffic accidents which stood at 2.2% in 2004 (WHO, 2008) may increase to 3.6% of global deaths, while disability-adjusted life years (DALYs) will rise from 2.7% of total DALYs in 2004 to 4.9% of total DALYs in 2030 (World Health Organisation, 2004), that is if current trends are unaltered. Statistically, the number of road traffic deaths each year has not only increased, but remains unacceptably high at 1.24 million per year (World Health Organisation, 2013). While there is evidence to show (Kopits and Cropper, 2003; Peden et al., 2004) that accidents due to road traffic have reduced by 30% in the Global north, the staggering revelations are that in sub-Saharan Africa, road traffic deaths has increased by 85% (World Health Organisation, 2013).

In Ghana, like in many developing nations, road traffic crashes continues to cause substantial number of deaths. In 2010, there were 12,981 road accidents with 11,147 injuries and 1760 deaths (National Road Safety Commission, 2013). In 2011, the figure increased to 13,272 with 2330 deaths (Ghana Police Service: MTTU, 2012). The statistics further show that most of the road deaths involved vulnerable road users such as pedestrians and cyclists. This situation is in tandem with studies by (Dandona et al., 2006; Liu et al., 2003) who observed that most of road accidents in developing countries involve vulnerable road users.

The past decade has seen significant growth in ownership and use of motorcycle in Wa, the most urbanised city in north western Ghana. Unlike other major cities in the West African sub-region where motorcycles are used for commercial purposes (Oteng-Ababio and Agyemeng, 2012; Olubomehin, 2012) in Wa, motorcycles are owned by individuals and used privately for commuting. The dominance of motorcycles over vehicular mode of transport in Wa can be attributed lack of intra-city public transport system (both public and private), inadequate motorable roads and the inability of the population to afford private ownership of vehicles, a situation which is generally linked to the socio-economic profile of the population in the northern ecological zone. For example, according to the Ghana Statistical Service (GSS), the three northern regions constitute the poorest areas of Ghana (Ghana Statistical Service, 2010) with Wa being regarded as the least developed and most impoverish regional capital. The economic deprivation, according to Dickson (1968) is deeply rooted in colonial economic policies that regarded the three northern regions as source of cheap labour for the colonial industrialisation drive in

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southern Ghana. This colonial legacy has been followed through till date, as neoliberal policies spearheaded by development partners have not been able to correct these ills in Ghana's regional development agenda.

While the use of motorcycle has significantly impacted positively on the social and economic lives of the people, the accompanying number of reported cases of road traffic accidents involving motorcyclist has also seen a phenomenal increase (Ghana Health Service, 2013; National Road Safety Commission, 2013).

In the year 2000, the number of registered motorcycles stood at 1819 and by 2014 it rose to 10,997 representing about 1000% increment (Driver and Vehicle Licensing Authority, 2014). Similarly, reported cases of road traffic accidents also increased from 1034 in 2010 to 1225 in 2013 (Wa Regional Hospital, 2013; Ghana Health Service, 2013). It should be noted that these official figures exclude the number of unregistered motorcycles and unreported road traffic accidents which is suspected to be even higher than the reported cases.

The literature is replete with studies on road traffic accidents in urban Ghana (see Afukaar (2001), Obeng (2013), Afukaar (2003), Forjuoh (2003), Mock et al. (1999) and Ackaah and Adonteng (2011) These studies are however, concentrated on vehicular and pedestrian road crashes in the cities of southern Ghana. Even where attempts have been made to study the Wa situation (Kudebong et al., 2011; Dinye, 2013), the concentration has always been on broad issues like motorcycle traffic accidents, motorcycle traffic management, and commercial motorcycle operations among others without considering the individual background characteristics of motorcyclist and how it affects their road traffic behaviour and accidents.

This therefore creates a knowledge gap. This paper attempts to fill that gap. The main objective of this study is to examine the relationship between the individual characteristics and behaviour of motorcyclists and their implications on road traffic accidents. We believe that the findings from this study can have important implications for informed traffic policies within the path of future development. To anticipate our main findings, we hypothesise that the socio-demographic characteristics of motorcyclist have effects on their road traffic behaviour. We also hypothesise that the licensure status of the motorcyclist and the ownership of motorcycle may influence the motorcyclist's road traffic behaviour. This paper therefore argues that an understanding of the characteristics of motorcyclist will help shape interventions that will promote behavioural change and reduce the increasing rate of road traffic morbidity and mortality in Wa.

2. Methodology

2.1. Study area

The study was conducted in Wa (Fig. 1) which is the regional capital of the Upper West Region of Ghana and is part of the savannah climatic region of West Africa. Though the city is politically and geographically, the "newest" regional capital in Ghana, it is a microcosm of the situation in the rest of the older cities in the country- rapid

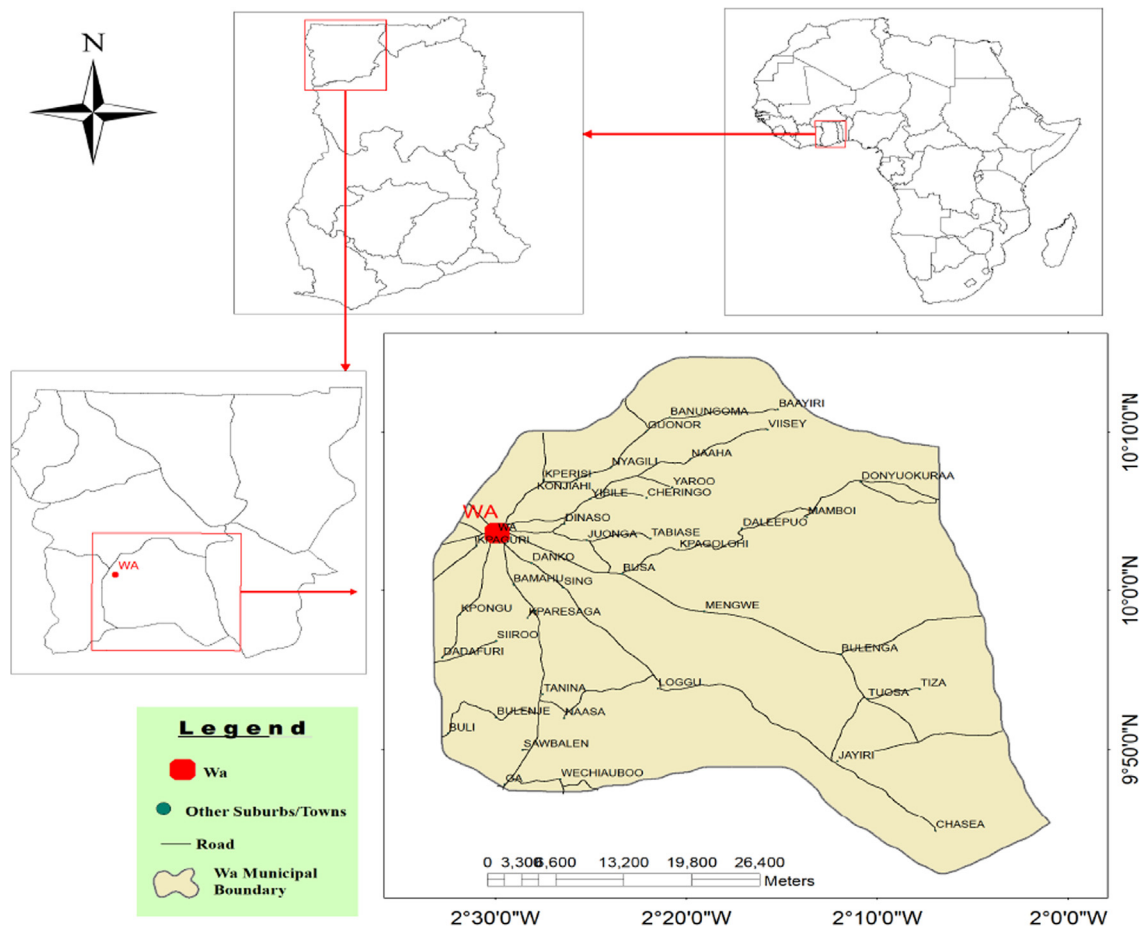


Fig. 1. Map of Ghana showing Wa.

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