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ORIGINAL ARTICLE

Full throttle: Are motorcyclists as risk-taking as we think?

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BACKGROUND
Motorcycling, whether thought of as a leisure activity, hobby, or social activity, can add quality to one's life. Being a member of a motorcycle club may promote a sense of community, while motorcycling itself may increase feelings of awe and joy. When conceptualized as part of one's social identity, motorcycling tends to be associated with an unfavourable image or stereotype, wherein motorcyclists' personalities are characterized as rebellious, prone to risk-taking behaviour, and masculine (regardless of the motorcyclist's gender). The accuracy of this stereotype is unclear, particularly as perceived by non-motorcyclists, such as car drivers. Accordingly, the overall purpose of this exploratory study was to describe the personality profile of motorcyclists from a basic trait perspective (Big 5) and assess its congruence with non-motorcyclists' perceptions of the "typical" motorcyclist's personality.

PARTICIPANTS AND PROCEDURE
A cross-sectional online survey (N = 376) consisting of motorcyclists (n = 194) and car drivers (n = 182) collected information on personality traits (self-report or perceived), riding behaviour (motorcyclists only), and well-being.

RESULTS
The results show that car drivers perceive motorcyclists to be more disinhibited, less open, more neurotic, less agreeable, and less conscientious than motorcyclists self-report.

CONCLUSIONS
Car drivers' perceptions of motorcyclists seem to be more negative than their actual personalities, suggesting an unfavourable judgement of that community.

KEY WORDS
personality; well-being; stereotypes; sensation seeking; motorcycle drivers

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BACKGROUND

Motorcycling, whether as a leisure activity, hobby, or social activity, plays a role in individual lives in various ways. Motorcyclists as a community are under-researched, despite 736,216 Canadians reporting registering a motorcycle in 2019 (Statistics Canada, 2020). When conceptualized as part of one's identity, motorcycling may be associated with a specific image, such as rebellion, risk-taking behaviour, and masculinity. Regardless of the negative stereotype that often follows motorcyclists, there is a sense of acceptance and togetherness that is unique to the motorcycling community (Crundall et al., 2008). There may be personality traits that play into this stereotype and significantly influence motorcycling behaviour, such as lifestyle decisions (Stanojević et al., 2019). While most research has focused solely on motorcyclist samples or car driving samples, there is a gap wherein there has not been an analysis comparing the two different populations (Crundall et al., 2008). The congruence between these perceptions and actual personality profiles is unknown. No study (to our knowledge) has investigated whether the public stereotype is congruent with the normative personality profile of motorcyclists. Thus, the purpose of this project was to explore and generate personality profiles of motorcyclists from a basic trait perspective and assess congruence with non-motorcyclists' (i.e., car drivers') perceptions of the "typical" motorcyclist.

MOTORCYCLING BEHAVIOUR

The paucity of individual difference research on motorcyclists generally shows that lifestyle, motives for motorcycling, and motorcycling behaviour (e.g., risky decision making) are linked to risk of, and number of, traffic accidents (Cheng & Lee, 2012). Motorcyclists who have a history of traffic accidents may have lower response inhibition and a greater willingness to make riskier driving decisions, which has been linked to impulsive disinhibition (Cheng & Lee, 2012). For example, in male motorcyclists, alternative riding motives (i.e., using motorcycle riding for other means than transportation such as relaxing, sensation seeking, and standing out) has been related to risky behaviour of riders (e.g., 'Bend the traffic rules in order to get ahead in traffic' and 'Drive fast to show others I can beat the car') and the number of accidents (Stanojevic et al., 2019). In support of this finding, Chliaoutakis et al. (1999) found that young drivers in Greece who adopted a lifestyle involving alcohol consumption or driving without destination were more prone to accidents while young drivers whose dominant lifestyle trait is culture (e.g. music, religiousness, etc.) experienced significantly fewer accidents (Chliaoutakis et al., 1999). In addition, studies (e.g., Cheng & Lee, 2012) have shown that motorcyclist traffic offenders tend to place a higher value on rewards than on losses. This finding serves as evidence that this population may exhibit a generally higher tendency toward risk-taking behaviour. Taken together, these results suggest that there is a significant difference in sensation seeking and risky behaviour between motorcyclists and the general public.

Unfortunately, motorcyclists make up a majority of the statistics regarding motor vehicle accidents (Statistics Canada, 2023). Many of these accidents are caused by inappropriate actions of car drivers rather than motorcyclists. Crundall et al. (2008) set out to assess car drivers' attitudes towards motorcyclists, predicting that car drivers at risk of collision with motorcycles have specific attitudes and beliefs about motorcyclists compared to other drivers. Their results showed that car drivers did indeed hold divergent beliefs about motorcyclists compared to dual drivers' (car drivers who also drive motorcycles) perceptions (e.g., negative attitudes, empathic attitudes, awareness of perceptual problems, and spatial understanding). Others suggest car drivers with moderate driving experience (2 to 10 years) held the most negative views and reported the most violations (Crundell et al., 2008). Overall, research uncovers a stereotype regarding motorcyclists and that motorcyclists themselves are directly impacted by these negative beliefs and opinions about the population as a whole, supporting the need for more research on interventions aimed at decreasing those unfavourable beliefs and perceptions.

MOTORCYCLISTS' PERSONALITY

Doornenbal (2021) found that five main personality dimensions in contemporary personality research (extraversion, neuroticism, openness, agreeableness, and conscientiousness) are predictive of life outcomes, such as health status. The sparse literature on motorcyclists' personality tends to focus on traits such as sensation or novelty seeking and the relationship with safe or unsafe motorcycling practices (e.g., using protective gear, speeding) (Antoniazzi & Klein, 2019; Chen et al., 2002; Zuckerman, 1994). Sensation seeking is characterized by the pursuit of varied unconventional and extreme experiences (Antoniazzi & Klein, 2019; Zuckerman, 1994). Novelty seeking is characterized by a tendency towards the activation of behaviour such as impulsive decision making or quick loss of temper (Chen et al., 2002). Given the similarity of novelty seeking and sensation seeking, for the purpose of this study, the two constructs can be considered interchangeable. Zuckerman (1994) hypothesized that individuals high in

sensation seeking would naturally gravitate to high-risk activities such as motorcycling due to the nature of the motorcycling experience. Further, Diniz et al. (2005) described a negative stereotype of the typical motorcyclist as one who is imprudent, audacious, reckless, uncivil, and thrill seeking. The select focus on the novelty/sensation seeking personality trait in the motorcyclist literature shines a light on the existence of a stereotype of motorcyclists – one that portrays them as masculine, wild, and irresponsible (Coquelet et al., 2018; Wong et al., 2010).

While sparse, the existing research literature highlights a consistent pattern in terms of personality traits and motorcycle riding behaviour. Motorcyclists have a higher risk of being killed or injured in a road accident than any other vehicle driver (Liu et al., 2009). The primary reason for this heightened risk is the lack of protection offered by a motorcycle, but also motorcyclists' risk-taking behaviour. Motorcyclists tend to choose faster speeds than car drivers, overtake more often, and pull into smaller gaps in traffic, which contribute to social stigma (Nja & Nesvag, 2007). Motorcyclists who engage in risky motorcycling behaviour (i.e., speeding, performing stunts, little use of protective gear) tend to be high in trait-based aggression (Antoniazzi & Klein, 2019), sensation or novelty seeking (Antoniazzi & Klein, 2019; Romero et al., 2019), and low in neuroticism, conscientiousness, and openness (Antoniazzi & Klein, 2019), suggesting that personality traits influence motorcyclists' adherence to safe motorcycling practices. As conscientiousness is considered a health-promoting and rule-following disposition, conscientious motorcyclists may be more inclined to adhere to safety precautions. Moreover, the negative relationship between neuroticism and risky motorcycling practices suggest that neurotic riders avoid environments or motorcycling conditions that are risky or uncomfortable (Antoniazzi & Klein, 2019; Romero et al., 2019).

DEMOGRAPHIC DIFFERENCES IN MOTORCYCLIST BEHAVIOUR AND EXPERIENCES

Previous studies have demonstrated that the motorcyclist community is predominantly male (Coquelet et al., 2018; Siviroj et al., 2012). For example, a previous study demonstrated that the male population was just over double the percentage of females; male = 67.3% vs. female = 32.7% (Siviroj et al., 2012). Coquelet et al. (2018) aimed to determine the relationship between gender, motives for motorcycling, and risk-taking among motorcyclists by analysing the effects of conformity to gender stereotypes. Both sex and gender were significant predictors of Motorcycle Riding Behaviour Questionnaire dimensions, in that masculinity was positively associated with competitive motives for motorcycling, violations and deliberate risk-taking while femininity was negatively associated with aggression and violations. While taking gender into account, these findings highlight the stereotypes within this population (e.g., risky driving, traffic violations, etc.) and demonstrate that there is a gender difference in motorcycling behaviours.

There is a growing sub-population of young, inexperienced motorcyclists (Blackman et al., 2008; Wong et al., 2010). Young adults are generally more predisposed to sensation-seeking and thrill-seeking behaviours than older adults; some personality traits can predispose young people to be more sensation seeking and take risks, such as extraversion (Czernecka et al., 2018), yet the connections between age, personality, and motorcycling safety remain unclear and pose an interesting future direction. In particular, Wong et al. (2010) suggested that sensation seeking (e.g., desire for excitement and stimuli), amiability (e.g., calm and calculating), and impatience (e.g., easily distracted, nervous riders) are three key personality traits that indirectly significantly relate to risky riding behaviour in young motorcyclists. Further, young amiable motorcyclists tended to practice mature and safe riding behaviours, while sensation seeking, and impatient motorcyclists did the opposite. While the amiable motorcyclists are considered mature and safe riders, the sensation-seeking riders are the opposite. They are found to be more comfortable with unsafe motorcycling behaviours (e.g., speeding) and to be overly self-confident in their capabilities. Despite being aware of the traffic conditions surrounding them while riding, sensation seeking motorcyclists are considered most at risk due to these attitudes (e.g., confidence, unsafe motorcycling behaviours) and tend to experience more severe accidents if they occur. Impatient riders reported lower confidence, leading to fear of motorcycling accidents – this is said to be the main cause of their accidents due to their worry or concern for their surroundings, nervousness, and being easily distracted by others. According to Wong et al. (2010), both the sensation seeking and impatient riders are considered the most high-risk motorcycling populations. These results are in line with previous research and support the running theme of risky riding in motorcyclists being influenced by similar personality traits as reviewed above.

OBJECTIVES

While preliminary research exists on motorcyclists' personality and the relationship to riding behaviour, the personality traits measured in existing literature are biased by perceptions of the dispositions of motorcycle riders. That is, a commonly held stereo-

type of motorcycles being wild, uninhibited, novelty and sensation seeking individuals is reflected in the choice of personality measures used in the literature on this population. Yet, no study (to our knowledge) has investigated whether non-motorcyclist's perceptions are congruent with the personality profile of motorcyclists. Thus, we aimed to explore and generate personality profiles of motorcyclists from a basic trait perspective and assess congruence with non-motorcyclists' perceptions of the "typical" motorcyclist.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

The sample size was determined with a precision analysis. Assuming a correlation of r = .21, and a desired 95% confidence interval width of ±.10, we planned to recruit a sample size of N = 352. Due to a lack of established correlations between vehicle use and personality, the average correlation in social psychology research (r = .21) was used (Richard et al., 2003). A total of 387 participants were recruited, slightly over our target sample size, resulting in a precision of ±.1018. The sample was divided into two groups: car drivers (n = 182) and motorcyclists (n = 194). The car drivers were recruited via the university online platform housing the undergraduate student participant pool, and from flyers advertising our study posted around the local community in public places (October 2022 – April 2023). Students were granted 0.5 bonus points to their course grade following the completion of the online survey. Participants from the motorcyclist sample were recruited through flyers and online advertisements in exchange for entering a lottery for 1-of-3 gift cards. Age ranged between 18 and 73, with an average age of 34 (SD = 14), with most participants self-identifying as women (51%) or men (48%), and infrequently, "prefer not to answer" (< 1%). There were more men motorcyclists (144; 61.54%) than women, and more women non-motorcyclists (142; 63.11%) than men. Most of the sample self-identified as White (94%), followed by Asian (5%), and Black (1%). Among the sample, 40% were students and 60% were not students.

MEASURES

Descriptive statistics on demographics and key measures are displayed in Tables 1, 2, and 3. Copies of all materials and measures used in this study, including measures not examined in the present paper, can be found on our Open Science Framework (OSF) page. Internal reliability for each measure is listed in Table 1.

Mental Health Continuum-Short Form. The Mental Health Continuum-Short Form measures overall positive mental health through 14 items (Keyes, 2009). Participants rate their frequency of feelings of emotional, social, and psychological well-being in the last month on a 5-point scale from 0 (*never*) to 5 (*every day*). Three items measure emotional well-being ("happy"), four items for social well-being ("that you had something important to contribute to society") and six for psychological well-being ("that you liked most parts of your personality"), which are averaged for a total score of well-being. This scale has previously shown strong convergent and criterion validity (Keyes et al., 2008; Petrillo et al., 2015).

Big Five Inventory. The Big Five Inventory (BFI; John et al., 1991) is a 44-item measure of each of the five main dimensions of personality (extraversion, neuroticism, openness, agreeableness, and conscientiousness, using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items are "Values artistic, aesthetic experiences" (openness) and "Is talkative" (extraversion). The BFI has previously shown satisfactory reliability and validity (Arterberry et al., 2014).

Sensation seeking. Sensation seeking was measured using the Sensation Seeking Scale (SSS; Zuckerman, 1979). The SSS is made up of four subscales: Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Boredom Susceptibility (BS) and Disinhibition (DIS). The items are four sets of ten questions that relate to all four of the subscales. For example, "Please indicate which of the following scenarios you would prefer. Skiing down a high mountain slope is a good way to end up on crutches, I think I would enjoy the sensations of skiing very fast down a high mountain slope". The Sensation Seeking Scale has previously demonstrated appropriate reliability and validity (Gray & Wilson, 2007).

PROCEDURE

The research was approved by the Institutional Research Ethics Board (approval no. 2020-050). The undergraduate psychology students who registered for this study via the SONA system were required to log onto the SONA platform using their university account, where they were given a link to the survey. The survey was administered through Survey Monkey, a paid online survey platform. Participants needed access to the internet and an electronic device (i.e., computer, mobile phone, or tablet) to complete the survey. Participants either: a) saw a flyer in the community and emailed the principal investigator for the survey link, or b) saw an advertisement online with a direct link to the survey. The questionnaire took about 20 minutes to complete. Participants were asked to identify as a motorcyclist or not (e.g.,

Table 1

Descriptive statistics

	M	*SD*	% or range	α
Demographics				
Vehicle type				
Motorcyclist			52%	
Car driver			48%	
Age	34.00	14.00	0-73	
Gender				
Men			48%	
Women			51%	
Non-binary			0.5%	
Income				
Low-income (under $40,000/year)			41%	
High-income (over $100,000/year)			58%	
Ethnicity				
White			94%	
Asian			4.9%	
Black			1.4%	
Scale scores				
Well-being	4.03	0.93	1.14-6.00	.90
Sensation seeking	16.00	10.00	0-35	.81
Experience	4.42	3.03	0-10	.79
Disinhibition	3.67	2.80	0-10	.63
Thrill seeking	4.73	3.60	0-10	.81
Boredom	1.79	1.82	0-10	.50
Openness	4.45	0.84	2.00-6.89	.64
Extraversion	4.42	0.77	2.13-6.50	.82
Conscientiousness	5.19	0.83	2.22-7.00	.78
Agreeableness	4.61	0.94	2.22-7.00	.76
Neuroticism	3.77	0.84	1.13-5.88	.82

exclusively a car driver) when beginning the survey. If they answered that they regularly drive a motorcycle (i.e., at least twice per week on average), the survey used skip logic to show the motorcyclist version of the survey. If they answered that they do not regularly drive a motorcycle, they received the general version of the survey. Both groups filled out nearly identical surveys, excepting the motorcycling behaviour questionnaire for motorcyclists. The framing of the personality questionnaire differed between the groups. For example, in the non-motorcyclist version, participants were asked to answer the personality items in accordance with the typical motorcyclist. This means we prefaced the measure by stating: "Here are a number of characteristics that may or may not apply to people who drive motorcycles. For example, do you agree that motorcyclists are generally people who like to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement when you think about the general motorcyclist." At the end of the questionnaire, a link was provided to enter an email address for the gift card draw.

ANALYTIC PLAN

The data, syntax, codebook, and questionnaires used in this study can be found on our OSF page (https://osf.io/ntv5e/?view_only=2965cb3f26984ee59a9b1644b3a3c525). Personality (self-report and perceived) and well-being differences between the two groups were tested with a series of Mann-Whitney *U* signed-rank tests adjusted for multiple comparisons and followed up with post-hoc comparisons when significant. The effect size was calculated through the *rstatix* package (wilcox_effsizel https://github.com/kassambara/rstatix), which follows recommendations by Tomczak and Tomczak (2014), to calculate the Wilcoxon test effect size by dividing the test statistic by the square root of the sample size. Due to a survey preparation error, the last item on the BFI (openness facet: "Is sophisticated in art, music, or literature") was not included. When calculating the total score, we omitted the item, resulting in a 43-item measure of personality.

RESULTS

Data were analysed using R (version 4.2.2; Posit Team, 2023). Correlations are presented in Figure 1. Driving a car was significantly linked to most of the Big 5 traits (negatively associated with age, conscientiousness, openness, and agreeableness, positively with neuroticism). Associations with car driving varied by variable (the value of *r* ranged from −.71 to .73).

A series of Mann-Whitney tests adjusted for multiple comparisons showed significant differences in disinhibition, openness to experience, neuroticism, agreeableness, and conscientiousness (see Table 2 for means, *p*-values, and effect sizes). Compared to what car drivers perceived, motorcyclists reported lower levels of disinhibition (W = 15543, p = .043, r = .10) and moderately lower levels of neuroticism (W = 8177.5, p < .001, r = .34). Moreover, motorcyclists reported substantially higher levels of openness to experience (W = 24968, p < .001, r = .73), agreeableness (W = 24110, p < .001, r = .68), and conscientiousness (W = 24394, p < .001, r = .70). Compared to car drivers' perceptions, the following motorcyclist's self-reported personality traits were not significantly different: sensation seeking (W = 18284, p = .547); thrill-seeking (W = 19140, p = .154); seeking experience (W = 16681, p = .351); susceptibility to boredom (W = 18793, p = .270); extraversion (W = 13297, p = .787). There was no significant difference in well-being (W = 14247, p = .063).

Figure 1

Bivariate correlations between study variables

	Car driver	Age	Conscientiousness	Openness	Agreeableness	Extraversion	Neuroticism	Disinhibition	Thrill-seeking	Experience-seeking	Not prone to boredom	Well-being
Car driver	1*	−0.45*	−0.67*	−0.71*	−0.66*	0	0.35*	0.11*	−0.07	0.07	−0.07	−0.09
Age		1*	0.39*	0.36*	0.38*	−0.04	−0.20*	−0.11*	−0.07	−0.01	0	0.16*
Conscientiousness			1*	0.57*	0.61*	0.16*	−0.43*	−0.06	0.12*	−0.03	0.04	0.21*
Openness				1*	0.46*	0.20*	−0.23*	−0.12*	0.09	0	0.13*	0.12*
Agreeableness					1*	0.02	−0.36*	−0.13*	0.07	−0.02	−0.07	0.19*
Extraversion						1*	−0.22*	0.09	0.09	0.08	0.14*	0.23*
Neuroticism							1*	0.04	−0.12*	0	−0.01	−0.26*
Disinhibition								1*	0.70*	0.72*	0.53*	0.02
Thrill-seeking									1*	0.73*	0.51*	0.05
Experience-seeking										1*	0.48*	0.01
Not prone to boredom											1*	−0.05
Well-being												1*

Note. Car driver = 1 for those who answered that they drive regularly but not a motorcycle; *p < .05.

Table 2

Differences in personality and well-being variables for motorcyclists' self-report and car drivers' perception of motorcyclists

Characteristic	Motorcyclist self-report	Car driver's perception	*p*	Effect size
Sensation seeking	15.76	16.18	.547	
Disinhibition	3.49	4.01	.043	.10
Thrill-seeking	5.11	4.62	.154	
Experience-seeking	4.35	4.78	.351	
Boredom-prone	1.96	1.72	.270	
Well-being	4.12	3.95	.063	
Extraversion	4.43	4.42	.787	
Openness	5.05	3.86	< .001	.73
Neuroticism	3.47	4.06	< .001	.34
Agreeableness	5.24	4.00	< .001	.68
Conscientiousness	5.05	4.16	< .001	.70

DISCUSSION

Our aim was to generate personality profiles of motorcyclists from a basic trait perspective and assess congruence with the non-motorcyclists' perception of the "typical" motorcyclist. We analysed differences in well-being, sensation seeking, and personality. Well-being was measured individually between groups and considered self-reported. In other words, for all personality items, non-motorcyclists rated how they perceived motorcyclists, except well-being. Driving a motorcycle was significantly associated with most of the Big 5 traits (positively associated with age, conscientiousness, openness, and agreeableness, negatively associated with neuroticism). In the following section, we focus on unpacking personality differences between driver types.

Car drivers were prompted to respond to the Big Five Inventory with their perceptions of motorcyclists; the majority identified as women, while most motorcyclists identified as men. As a result, participants who identified as car drivers perceived motorcyclists to be more neurotic, less agreeable, and less conscientiousness than motorcyclists in our sample actually are. In contrast, our results show that participants who identified as motorcyclists actually scored higher in openness, agreeableness, and conscientiousness than what was perceived by car drivers. Motorcyclists and car drivers' perceptions of motorcyclists were comparable in extraversion. These three dimensions of the Big Five are linked to good physical and mental health (Doornenbal, 2021), which may help explain why motorcyclists experienced greater levels of positive mental health. Overall, differences in openness, neuroticism, agreeableness, and conscientiousness were all found to be significant. In support of our findings, previous research by Crundall et al. (2008) showed that car drivers do tend to hold conflicting beliefs about motorcyclists when compared to dual drivers' perceptions. Perceptions within their study included negative attitudes, empathic attitudes, awareness of perceptual problems, and spatial understanding. In addition, they found that car drivers with moderate driving experience held the strongest negative views regarding motorcyclists. Car drivers perceive motorcyclists to be more neurotic, less agreeable, and less conscientious – suggesting an overall negative connotation concerning motorcyclists. More research is needed to understand why car drivers hold such negative stereotypes over motorcyclists and how we can rectify the ongoing issue.

Previous research has found that motorcyclists who engage in risky riding behaviours tend to be higher in trait-based aggression and novelty seeking (Antoniazzi & Klein, 2019). In addition, they are found to be low in neuroticism, conscientiousness and openness. These results suggest that there are certain personality traits that influence motorcycling behaviours and road safety. As our results were found to be the opposite in that car drivers are more sensation seeking and motorcyclists are less neurotic, more agreeable and more conscientious, more research should be done to determine the causes of these differences. Future research may benefit from investigating gender influences on motorcyclists' driving behaviours.

Car drivers' and motorcyclists' overall score of sensation seeking was comparable though car drivers were slightly higher in sensation seeking overall. Only one of the three subscales within the Sensation

Seeking Scale, Disinhibition, was found to be significant. In the current study, car drivers scored higher in experience while motorcyclists scored higher in thrill seeking. Previous research showed that motorcyclists who have a history of accidents may have lower response inhibition and a greater willingness to make riskier driving decisions, which is directly linked to impulsive disinhibition (Cheng & Lee, 2012). These results suggest that motorcyclists are higher in disinhibition. As our motorcycle sample predominantly self-reported not having a history of accidents, and car drivers scored higher and significantly in disinhibition, our results suggest the opposite.

In addition, Cheng and Lee (2012) suggested that motorcyclists who have been involved in traffic offences care more about the rewards than the losses. This statement suggests that motorcyclists are more sensation seeking than the general public, but our study results suggest otherwise, as car drivers were found to score slightly higher in sensation seeking compared to motorcyclists. Some personality traits can predispose young people to be more sensation seeking and take risks, such as extraversion (Czernecka et al., 2018), yet the connections between age, personality, and motorcycling safety remain unclear and point to an interesting future direction.

Well-being was found not to differ significantly between car drivers and motorcyclists. Previous research showed that the riding experience enhances motorcyclists' overall well-being – specifically when used as a leisure activity (Kruger & Venter, 2020). Participating in leisure related activities benefits physical and psychological wellbeing. In addition, it is known that participation in leisure activities releases positive chemicals that enhance the wellbeing of individuals (Sirgy, 2021). Motorcyclists who ride for leisure may experience a higher level of positive well-being; there could be a distinct difference in how car drivers and motorcyclists view their commute, which could in turn influence well-being.

Most motorcyclists reported that they ride in full gear, always perform shoulder checks, rarely take passengers, and prefer back roads compared to highways. In addition, the bulk of participants stated that they had taken the Motorcycle Safety Course offered in Nova Scotia and self-reported that they had not previously been involved in an accident. Participants' preference for sport vs cruiser style bikes was considered comparable. Lastly, most participants responded 'sometimes' regarding whether or not they adhere to the speed limits set in place. These responses suggest that motorcyclists are fairly diligent and conscientious when it comes to motorcycling and road safety, contradicting car drivers' responses concerning their perceptions of motorcyclists, which will be discussed in the coming sections. Previous research showed that motorcyclists' motivations for motorcycling influence their riding behaviours. For example, Stanojevic et al. (2019) found that male motorcyclists who ride for leisure rather than strictly transportation are linked to risky riding behaviours as well as higher frequency of accidents. In addition, Chliaoutakis et al. (1999) found that young drivers who drive without destination are more prone to accidents. These results support the conclusion of the current study in that there is a significant difference between car drivers' and motorcyclists' driving motives and behaviours. More research is needed to determine the causes of this difference and how research can inform efforts to minimize risky motorcycling behaviours to ensure the safety of all on the road.

LIMITATIONS AND FUTURE DIRECTIONS

The contextual factors of Nova Scotia may limit the degree to which the findings can be applied to other locations (e.g., rural areas). Cross-sectional surveys are limited in the type of research questions that can be addressed (as no interactive follow-up is possible based on the respondent's answer), due to the focus on one point in time. Although one-time surveys are efficient in gathering and interpretation of quantitative data, they are limited in their ability to probe responses. The cross-sectional design of the study made it impossible to examine longitudinal trends in driving behaviour and personality perceptions. In the future, improving study design, such as mixed methods, would be beneficial to gain a richer understanding of why personality differs from perceptions. Additionally, as the car drivers who assessed the motorcyclists were mostly women while the majority of motorcyclists identified as men, future research should address gender when it comes to assessing personality. Overall, motorcyclists' personality and well-being are more favourable than the public may realize, and we suggest that there is more than the excitement motive behind the choice to ride motorcycles.

Disclosures

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The authors declare no conflict of interest.

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