Driving is a complex phenomenon requiring two separated components: cognitive skill and motivation (Lajunen et al., 1998). Due to this complexity, stress could occur during driving and lead to errors in decision-making (Hill & Boyle, 2007). Thus, stress is a critical factor in driving, as research has shown how driver stress can lead to aggressive and dangerous driving behaviors (Ge et al., 2014), as well as fatigue, thereby increasing the likelihood unsafe driving will occur (Useche et al., 2017).

Previous literature reported that personality is a significant influencing factor in driver stress (Ge et al., 2014; Ismail & Halim, 2015; Lajunen & Summala, 1995). Furthermore, research has also noted that community participation can increase individual health and well-being, especially among disadvantaged populations (Attree et al., 2011). While previous studies have highlighted the role of personality in driver stress, and community engagement to enhance general well-being in general, the effect of the interaction between personal resources and community participation on driver stress remains unclear. Moreover, most research on driver stress has focused on drivers of four-wheel vehicles (Matthews et al., 1996; Rastgoo et al., 2018), while stress in motorcyclists has received little attention, even though two-wheeled vehicles are the most common in many big cities in Indonesia. Research has also shown that motorcyclists are exposed to higher risks as compared with car drivers (Suzuki et al., 2019).

Using the salutogenic model originated by Antonovský (1987) and simplified by (Super et al. (2016), this study aimed to extend previous...
research on personal resources—particularly, sense of coherence (SOC)—in reducing driver stress. Thus, the current research aimed to provide a better understanding of the impact SOC (personal resource) and community membership (social factor) may have on driver stress among online ridesharing drivers in Indonesia.

Work-Sense of Coherence and Driver Stress

Modern urban societies have many advantages due to technological advancements, such as online ridesharing. This new way of commuting offers affordable services, more efficient use of time, and ease of accessibility (Mayasari & Haryanto, 2018). As a result, there is a rapidly growing demand for online ridesharing services in big cities, such as Jakarta, particularly for motorcycle ridesharing services. This growing demand has increased the number of online ridesharing drivers as well. In Indonesia, Go-Jek created the first online ridesharing business. Unlike Uber and Lyft who offered car-sharing as their core business model, Go-Jek chose motorcycle-sharing (or ojek in Indonesian) for its first ridesharing business in Jakarta. This was because motorcycles have higher mobility than cars, and can thus get through traffic jams in Jakarta more easily. With their ease-of-use characteristic and mobility, Go-Jek quickly became popular, with the number of registered drivers increasing from 3,000 in 2015 (Nurcahyani, 2015) to approximately 2.5 billion in 2020 (Azka, 2020).

A survey conducted by the Lembaga Demografi Fakultas Ekonomi dan Bisnis Universitas Indonesia (LD FEB UI, 2019) in 2018 showed that Go-Jek drivers earned an average monthly income of around IDR 3,460,000 each month, which is slightly better than the minimum regional wage (Upah Minimum Regional – UMR) in most Indonesian cities. This made being a Go-Jek driver seem challenging yet promising among online ridesharing drivers (Grasiaswaty et al., 1989).

A common problem experienced by online ridesharing drivers is driver stress. (Gulian et al., 1989) suggested the possibility of several main stressors for those who choose driving as their primary occupation that could be categorized into extrinsic and intrinsic stressors. An example of extrinsic stressor is driving conditions. Congestion has been identified as a driving condition that serves as the main cause of driver stress (Qi et al., 2013; Wickens & Wiesenthal, 2007). Other research reported that sound and noise could increase stress (Cottrell & Barton, 2012). An example of an intrinsic stressor is the nature of the job itself (Montoro et al., 2018; Useche et al., 2018). For rideshare drivers, their informal and precarious characteristics made them suffer some exploitations due to their financial insecurity (Puspitarini et al., 2019), which enforce them to take excessive workloads that leads to work stress. Both extrinsic and intrinsic stressors might cause an acute stress, but for those who work as drivers, repeated exposure to work-related factors could lead to chronic stress (Antoun et al., 2017).

Driver stress can result in lack of awareness and misinterpreting risks on the road. If drivers cannot cope with stress, it will lead to negative outcomes, such as risky driving behavior (Useche et al., 2018) and becoming involved in a highway collision (Clapp et al., 2012). Furthermore, risky driving behaviors could also affect an online ridesharing company’s reputation, as drivers are representatives of the company (Benoit et al., 2017).

Notably, Rowden et al. (2016) indicated how motorcyclists and the four-wheel vehicle drivers could experience the same stressors; however, the former has a higher tendency toward holding on to their aggression, thus experiencing more driver stress. Rowden et al. also found that external factors (e.g., weather, wind, heat, or noise) or contact with other drivers could make motorcyclists more vulnerable to injury. Further, Rowden et al. (2016) found this perceived vulnerability leads motorcyclists to adopt a “defensive mode” when interacting with others on the road in an attempt to reduce the potential collision will occur. If drivers cannot cope with the stressors, it will inflict some negative consequences for the drivers and for others road-user.

One personal resource known to help individuals cope with everyday stressors is SOC. SOC is defined as the ability of individuals to manage internal and external factors around them, thereby leading them to feel confident that the outcome will be predictable (Eriksson & Lindström, 2006). People who have high SOC generally see their environment as a controllable variable; therefore, they are able to see problems
clearly and identify what is needed in order to reduce their stress. Moreover, as Antonovsky (1987) emphasized, SOC is a mental health resource, as people with a high degree of SOC will show great flexibility in dealing with stress.

Several other studies have used empirical data to examine how SOC could potentially reduce work-related stress. In a study conducted among Japanese office clerks, SOC was inversely correlated with negative health indicators, such as anxiety, fatigue, and tension. SOC has also been found to be inversely associated with depression and subjective mental health symptoms in women (Urakawa et al., 2012). Further, SOC was found to be a significant protective factor for employees in relation to the negative impact of workplace stressors among Finnish white-collar workers (Feldt, 1997; Feldt et al., 2007). Previous findings have shown that the higher one’s SOC, the lower one’s level of psychosomatic and psychopathology symptoms (Schäfer et al., 2020; Simonsson et al., 2008). SOC has also been demonstrated to be a possible buffer for the effects of a stressful event (Vogt et al., 2016). Moreover, another study showed how having a strong SOC can help employees view stressors as manageable and meaningful events; thus, employees can use appropriate coping strategies to deal with daily work-related stress (Kotzé & Nel, 2016).

An early study on driver stress and SOC reported a significant negative correlation between these two factors (Lajunen & Summala, 1995); drivers with high SOC tend to have low driver stress. Other research on SOC and driving behaviors have also shown how adolescents with high SOC tend to be more careful drivers (Ben-ari, 2014). According to the transactional model of driver stress, negative cognitive appraisals of a driving situation are responsible for driver stress (Gulian et al., 1989). Furthermore, SOC is a cognitive coping mechanism that could help to cope and deal with this stress. Taken together, this previous research provides some empirical indication of how SOC could reduce work-related stressor, in this research context, driver stress on online rideshare drivers. However, studies mostly were conducted with samples of healthcare workers or highly skilled workers (del-Pino-Casado et al., 2019; Eriksson & Lindström, 2006), and little research has been done in the low-skilled workers.

Based on classification by Maron et al. (2016), ridesharing drivers are generally blue-collar workers who do not require specialized skills or education. Blue-collar workers usually work with tangible objects, such as machines, equipment, or hardware, while white-collar workers are more likely to work with data or concepts (Schreurs et al., 2010). Another notable difference is that blue-collar jobs have less opportunities for growth and development (Halle, 1984), making them less access to gain some work resource than white-collar workers who usually are given challenge and control in their work (van den Broeck et al., 2010). Another study on online sharing in Indonesia also showed that drivers usually come from low socioeconomic backgrounds and have low educational levels (Frey, 2020). Notably, research has also shown that workers with these characteristics tend to have lower SOC than workers with higher socioeconomic status (Barnard, 2013).

Belonging to a community could be one way to strengthen SOC, thereby reducing driver stress. Brofenbrenner (1979) stated that when investigating individuals under high-pressure conditions or during a crisis, it is essential to consider ecological context, such as community affiliation. Community context can influence not only reactions to a crisis but also coping with and adjusting to the situations (Hobfoll et al., 1990). However, despite increasing research on SOC and workplace stress, there is little empirical evidence on the roles of SOC and stress among drivers, especially when the social factor is taken into account.

Based on our observations, involvement in a local community is a unique characteristic of Indonesian rideshare drivers. This community generally consists of ridesharing driver within the same area. Thus, we accounted for how affiliation with the ridesharing driver community could strengthen the ability of SOC to reduce driver stress.

**Moderating Role of Ridesharing Online Community Affiliation**

A community could play an essential role in the relationship between SOC and driver stress for several reasons. First, Antonovsky (1987) emphasized the impact of social ties and support on an individual’s SOC. Engaging in a commu-
nity could help its members pool social resources (Hobfoll et al., 1990; Payne et al., 2011), and these social resources could then be used to counteract stressors in daily life (Lindstrom & Eriksson, 2010), including work-related stressors. A few research findings also emphasized the importance of social factors, such as a good relationship with others, in moderating the relationship between SOC and positive outcomes for worker well-being (Feldt, 1997). The importance of social support is also emphasized in the salutogenic model which views social support as part of general resistance resources, which provide one with a sense of meaning in life (Lindstrom & Eriksson, 2010). Thus, social support plays an important role in one’s SOC.

Another possible explanation is that the community can become a place where ridesharing drivers have a social identity, as it is a place where people with a shared identity can offer each other strength, something that is most common among marginalized groups (Mcnamara et al., 2013). Hobfoll, et al. (1990) borrowed from Maslow and Erickson’s theories and argued that if someone’s social identity emerges as a consequence of community affiliation, this identity could become serve as a protective factor when experiencing a stressful event. Suseno (2018) revealed how Go-Jek drivers in Indonesia share connectedness, trust, and understanding among their community. As Indonesia reflects embeddedness culture (Schwartz, 2017), having a social identity is a possible motivation for work. Thus, if ridesharing drivers engage in a community, it will strengthen the ability of SOC (as a personal resource) to reduce driver stress. Therefore, the present research also tested the moderating effect of social factors, as we hypothesized that membership in an online ridesharing driver community would moderate the association between SOC and driver stress.

Hypothesis: Community affiliation will moderate the relationship between SOC and driver stress, in that joining a community will lead to SOC having a greater effect in reducing driver stress, as compared with not joining a community.

Methods

Participants and Procedure

The present study was conducted among Indonesian online ridesharing drivers (ojek online). There were two inclusion criteria for the present sample: (1) online ridesharing driver was an individual’s primary occupation, (2) an individual spent at least four days a week performing this job. We used these as requirements because some people only work as ridesharing drivers a part-time, or for only one or two days per week. We chose four days because there are seven days in a week, making four the minimum number in which working days would outnumber days off.

All participants were asked to complete the questionnaire. Prior to completing the survey, they first signed informed consent that they were willing to take part in the survey. Confidentiality and anonymity of responses were assured to increase respondent’s candidness. All respondents were male (N=112). Based on the recommendation of Useche et al. (2017), we excluded female drivers, as they are underrepresented in this occupational group. Most participants were within the range for prime work age, which is 21–40 years (80.95%). Mean participant age was 27.2 years (SD = 5.88). Most participants had already completed high school (75.23%), although some had only graduated from junior high school (14.28%). Most had worked as an online ridesharing driver for 1–3 years (93.33%); 41.9% were married and 35.24% reported being affiliated with a community.

Figure 1

![Diagram of the relationship between Sense of Coherence, Driver Stress, and Community Affiliation.](image-url)
Measurements

**Dependent Variable: Driver Stress**

Driver stress was measured using the one-dimension Driver General Stress, which is a subscale of the Driver Behavior Inventory by Gullian et al. (1989). The measure comprises 16 items rated using a four-point Likert scale (e.g., “I feel frustrated when I fail to overtake others”). The scale was adapted using a back-translation method and expert judgments based on (Beaton et al., 2000). We conduct confirmatory factor analysis to examine the validity of SOC as one factor using the lavaan package in R studio and found good fit (CFI = 1.00; TLI= 1.00; RMSEA = 0.00; SRMR = 0.081).

**Independent Variables**

**Work-Sense of Coherence.** SOC was measured using the Work-related Sense of Coherence Scale (Work-SOC) (Vogt et al., 2013). Vogt et al. (2013) developed this scale based on Antonovsky’s concept of SOC (1987). We first adapted the original form scale and checked for its readability with five online ridesharing drivers. The five drivers provided comments such as "this questionnaire is hard" or "I did not understand this kind of questionnaire." Thus, we decided to adapt the measure using a five-point Likert scale. The comprehensibility dimension has three items (e.g., “Generally, I found this job/as an online ridesharing to be arranged well”), the manageability dimension has three items (e.g., “I can control everything about my job as an online ridesharing driver”), and the meaningfulness dimension has six items (e.g., “I see my job as an online ridesharing driver as meaningful”). We conducted confirmatory factor analysis to examine SOC factor validity using the lavaan package in R Studio and found satisfactory fit (CFI = 0.960; TLI= 0.946; RMSEA = 0.090; SRMR = 0.095).

**Community affiliation.** We asked about community affiliation with a single question: "Did you join a certain community regarding this job?" It was coded with a dummy variable (1: joined a community and 0: did not join a community). To make sure participants understand the term “community,” we expanded this question with space for them to include the name of their community.

**Questionnaire Development**

A pilot test was conducted by assessing 28 online ridesharing drivers using all the scales discussed above. The results were satisfactory, with all scales having reliability values (Cronbach’s alpha) higher than 0.7 (Kaplan & Sacuzzo, 2008), ranging from 0.704–0.885. The assumption of linearity and normality data was examined first using the Kolmogorov–Smirnov test with p > 0.05, which indicates normal data distribution. We also reviewed all the scales again for readability, especially the SOC scale, and the new form was reported to be easier to understand. Data from the pilot test was not included in the main analysis. Moderator analysis using JASP (Goss-Sampson, 2019) was used to test whether the community could moderate the relationship between SOC and driver stress.

**Results**

**Preliminary Results**

The assumption if linearity and normality was met. The internal consistencies of all scales were satisfactory, with Cronbach’s alpha values higher than 0.70 for all factors (Kaplan & Sacuzzo, 2008), except for the manageability scale, which showed low internal consistency (α = 0.622). This finding was in line with some previous research that found low internal consistency for one or two dimensions of SOC, such as meaningfulness (Zimprich et al., 2006) or manageability (Naaldenberg et al., 2011). Due this result, we tested the correlation among three items and found a significant result (r12 = 0.459, p < 0.001; r13 = 0.285, p < 0.05; and r23 = 0.315, p < 0.001), and compared the mean from high (M = 4.497; SD = 0.391) and low manageability (M = 3.339; SD = 0.282) and showed significant result (T=18.165; p < 0.001). Table 1 shows overall means, standard deviations, internal consistency, and correlations between all dimensions in this research. Driver stress did not correlate with overall SOC or comprehensibility (r = 0.007, p > 0.05 and r = 0.049, p > 0.05, respectively); however, manageability and meaningfulness significantly correlated with driver stress (r = 0.372, p <
Table 1
Correlations and internal consistency for all variables (N = 102)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Comprehensiveness</th>
<th>Manageability</th>
<th>Meaningfulness</th>
<th>Work Sense of Coherence</th>
<th>Driver Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensiveness</td>
<td>4.229</td>
<td>0.658</td>
<td>(0.799)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manageability</td>
<td>3.866</td>
<td>0.669</td>
<td></td>
<td>0.541***</td>
<td>(0.622)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaningfulness</td>
<td>4.076</td>
<td>0.661</td>
<td>0.657***</td>
<td>0.340***</td>
<td>(0.765)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Sense of Coherence</td>
<td>4.062</td>
<td>0.550</td>
<td>0.858***</td>
<td>0.670***</td>
<td>0.900</td>
<td>(0.844)</td>
<td></td>
</tr>
<tr>
<td>Driver Stress</td>
<td>2.464</td>
<td>0.444</td>
<td>0.049</td>
<td>0.372***</td>
<td>-0.200*</td>
<td>0.007</td>
<td>(0.857)</td>
</tr>
<tr>
<td>Community Affiliation</td>
<td>1.402</td>
<td>0.492</td>
<td>-0.389***</td>
<td>-0.337***</td>
<td>-0.321***</td>
<td>-0.411***</td>
<td>-0.171</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01, *** p < .001

0.001; r = -0.200, p < 0.05, respectively).

Table 2 shows the results of hierarchical multiple regression analyses with driver stress as the dependent variable. Age was shown to affect driver stress in previous research (Hennessy, 2015; Lardelli-Claret et al., 2011); therefore, we added it in to the model. Moderator analysis results showed how the relationship between work SOC and driver stress was moderated by community affiliation (β = -2.178, p < 0.05). There were significant R changes from Model 1 to Model 2. Age was not found to significantly affect driver stress in any model. Model 1 was for multiple regression for the independent variable, and in Model 2, we added the interaction between the independent variable and community affiliation as a moderator variable. As can be seen in Table 2, Model 2 had significantly had more explanatory power (ΔR2) than Model 1. Further, the regression coefficient for the community affiliation was negative. More complete results are shown in Figure 2.

Discussion

We aimed to examine whether community affiliation could moderate the relationship between SOC and driver stress based on online ridesharing driver community phenomenon in Indonesia. Specifically, we investigated how engaging in the ridesharing driver community could help SOC more effectively reduce driver stress. To our knowledge, this is the first empirical research in Indonesia that examines the moderat-

Table 2
Testing moderator analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized</td>
<td>SE</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.064</td>
<td>0.114</td>
</tr>
<tr>
<td>Work SOC</td>
<td>-0.014</td>
<td>0.111</td>
</tr>
<tr>
<td>Community</td>
<td>-0.128</td>
<td>1.462</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work SOC X Community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value F</td>
<td>0.727</td>
<td>3.372</td>
</tr>
<tr>
<td>Adj R2</td>
<td>-0.07</td>
<td>0.075</td>
</tr>
<tr>
<td>R</td>
<td>0.137</td>
<td>0.327</td>
</tr>
<tr>
<td>ΔR</td>
<td></td>
<td>0.19**</td>
</tr>
</tbody>
</table>

Note. ** = p < 0.01. Work SOC = work sense-of-coherence
ing role of community affiliation in the SOC-stress relationship. The results showed that the data supported our hypothesis. The role of SOC in reducing driver stress was moderated by community affiliation. Moreover, the role of SOC as a protective factor for driver stress was only found in drivers who were part of a community. For drivers who were not part of a community, SOC played no significant role in reducing driver stress.

Our research provides evidence that a simple social identity could amplify the role of SOC in reducing daily stress. Our moderator analysis implied that community affiliation could become a source of support to help drivers maximize their SOC potential, thereby reducing stress. This result was in line with previous research that showed the importance of community in helping reducing stress. (Mcnamara et al., 2013) showed how identifying with a community can have positive consequences for psychological well-being, especially in marginalized groups. Frey (2020) reported how community affiliation could help online ride-sharing drivers to counter atomization—the sense of being “alone” during digital platform work in a gig economy—or enhance their psychological sense of community. Her study also showed how the online ridesharing community in Bandung provided not only social support but also protection and information for drivers, especially when facing intimidation from others on the road. Thus, this kind of resource helps drivers to master their SOC and reduce driver stress.

This result was also in line with another theoretical framework regarding work-related stress. Kirchmeyer (1992) posited that people who engaged in a community could enrich the resources available to them for work. Bakker and Demerouti (2014) stated in their Job Demand Resources Theory that having more resources makes people more flexible in dealing with stress. Hobfoll et al. (1990) also posited how a productive system of resources, like community, could help people counteract everyday stressors. In the case of online ride-sharing drivers, they do not have an actual organization or supervisor, and they have less job security. Therefore, they have fewer resources and can be more vulnerable when dealing with stress. Thus, community affiliation could be an alternative social resource for the ridesharing driver for helping them stressor in their daily work. Although this research presents sound findings regarding how community affiliation could help to reduce driver stress, there are some limitations that should be considered. First, all measurements were self-reported. Thus, there is a possibility for common method bias (Podsakoff et al., 2003; Podsakoff & Organ, 1986). Even though it is difficult to measure SOC using other methods than self-report (Vogt et al., 2016) driver stress might be measure using a biopsychological approach (Maguire et al., 2006) or using a combination of physiological and artificial intelligence (Healey & Picard, 2005).
Another limitation was that we only measured engaging with a community using a dummy variable. We did not examine the quality of social support or social relationships within the community. Other limitations in this research are present regarding the scale. Although it showed good reliability and most items had good inter-item correlation, there were still some issues. We suggest future research works to not simply adapt but create a new SOC scale, especially when assessing blue-collar workers. We also did not take other constructs into account, such as self-efficacy or optimism, which might be considered as possible moderators. Furthermore, even though they were statistically significant, we need to interpret these research results carefully, especially in a large population. A future replication study will be needed to find support for these preliminary results.

Conclusions

Driver stress is influenced by human, environmental, and social factors. The current research endeavored to quantify the effects of personal and social factors on driver stress, especially in a marginalized community, such as a ridesharing driver. Along with a lack of resources, online ridesharing driver face stressors every day that come from the road and threat from conventional ride-hailing. Thus, they could use social resources from their community to help reduce stress. Another practical implication of this study is that health promotion techniques for reducing driver stress can be developed by involving the online ridesharing community. Low-wage and mobile workers, such as online ridesharing drivers, are known to have less access to health promotion programs, sometimes because they are ineligible or unable to participate (Stiehl et al., 2018). Thus, their community could become an entry point for this type of intervention and help drivers to improve their health outcomes.

Declaration of Conflicting Interest

There is no conflicting interest to the authorship and/or the publication of the manuscript.

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