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Investigating cyberloafing, organisational justice, work engagement and organisational trust of South African retail and manufacturing employees

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Orientation: Understanding cyberloafing, organisational justice, work engagement and organisational trust will lead organisations to develop strategies to counter the consequences of cyberloafing.

Research purpose: This research explored the relationships between cyberloafing, organisational justice, work engagement and organisational trust among South African office workers in the retail and manufacturing industry.

Motivation for the study: Cyberloafing, a prevalent way for office employees to engage in non-work-related activities during work time, is considered harmful to organisations. Limited research exists about the relationship between cyberloafing and organisational justice, organisational trust and work engagement within South Africa.

Research design, approach and method: A quantitative research design was followed. Questionnaires were administered in the South African retail and manufacturing industry; a convenient sample of $N = 224$ was obtained. Descriptive statistics, Cronbach's alpha coefficients, structural equation modelling and bootstrapping were used for data analysis.

Main findings: Organisational justice was positively related to organisational trust while organisational trust was positively related to work engagement; work engagement related negatively to cyberloafing. Organisational trust mediated the relationship between organisational justice and work engagement while work engagement mediated the relationship between organisational trust and cyberloafing.

Practical and managerial implications: Strategies can be developed to enhance and warrant perceptions of organisational justice and fairness that will increase trust levels, leading to higher work engagement and decreased cyberloafing behaviour and resulting in higher productivity.

Contribution or value-add: The research revealed that when employees perceive their organisations as being fair, organisational trust will increase, leading to heightened work engagement levels and ultimately reducing cyberloafing behaviour.

Introduction

The optimisation of employee productivity by means of technology has become an important issue for organisations (Baturay & Toker, 2015). Technology such as computers and the Internet has become synonymous with daily organisational operations (Baturay & Toker, 2015). Employees now have the ability to work smarter, increase their work tempo and consequently their productivity (Al-Shuaibi, Shamsudin & Subramaniam, 2013). Malhotra (2013), however, states that the implementation of new technology such as the Internet in organisations may lead to new types of problems. One of these is the fact that employees are now provided with the opportunity to engage in a new form of counterproductive work behaviour (CWB), which is often referred to as 'cyberloafing' (Lim, 2002). 'Cyberloafing' refers to the use of company Internet during work hours to engage in non-work-related activities (Lim, 2002). Cyberloafing differs from traditional loafing at work; it enables employees to engage in personal activities, while creating the illusion of being hard at work (Jia & Jia, 2015). The International Data Corporation specified that between 30% and 40% of employees use their organisation's Internet for non-work-related tasks (Li, Sarathy, Zhang & Luo, 2014) and that 30% of companies have terminated employees for cyberloafing behaviour (Al-Shuaibi et al., 2013; Liberman, Seidman, McKenna & Buffardi, 2011). The CEO of Keyscore indicated that the impact of cyberloafing on South African companies has not been

estimated and that its impact may cost them millions of rands (Benjamin, 2011). Cyberloafing is therefore a prevalent threat within South African organisations.

Researchers have suggested that it would be beneficial to focus on understanding the motives behind engaging in cyberloafing rather than attempting to entirely eliminate the occurrence thereof (Askew et al., 2014; Blanchard & Henle, 2008; Krishnan, Lim & Teo, 2010).

Various reasons exist why employees engage in cyberloafing. These reasons relate to personality, situational and organisational factors (Ozler & Polat, 2012). Lim (2002) refers to cyberloafing as an escape mechanism, especially when job demands exceed job resources. A popular motivator for cyberloafing is organisational justice. *Organisational justice* refers to the perception of fairness between organisations and their employees (Lim, 2005). Studies have indicated that when employees perceive that organisational injustice has occurred, they tend to retaliate in order to restore justice by engaging in cyberloafing behaviour (Ahmad & Jamaluddin, 2009; De Lara, 2009; Lim, 2002).

DeConinck (2010) states that justice and trust are aspects of social exchange theory, which is introduced by the fair treatment of employees. Blau points out that social exchange refers to 'the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others' (Blau, 1964, p. 91). The aforementioned authors therefore link organisational trust and organisational justice. In addition, when an employee perceives his or her organisation as being fair (showing justice), it results in an increase in trust, which in turn leads to improved work engagement (Agarwal, 2014). *Work engagement* refers to the situation in which an employee is passionate about his or her work and workplace (Hassan & Jubari, 2010). It is perceived as a positive experience; therefore, when employees display high levels of work engagement they tend to have more positive experiences (Sonnentag, Mojza, Binnewies & Scholl, 2008).

The main purpose of this study was to examine the structural relationships between cyberloafing, organisational justice, organisational trust and work engagement and to examine possible mediating roles for organisational trust and work engagement.

Literature review
Cyberloafing
Cyberloafing is a prevalent form of CWB when employees retaliate against the organisation by deliberately decreasing their work contribution (Jia, Jia & Karau, 2013). Most researchers categorise cyberloafing as production deviance, because of the impact it has on employee productivity and organisational cost (Lim, 2002; Ozler & Polat, 2012). *Production deviance* refers to behaviours that infringe on organisational norms through low quality and quantity of completed work (Hollinger & Clark, 1982).

Research has shown that cyberloafing may either be destructive or constructive for organisations. It is destructive because of the negative consequences it holds. These negative consequences include loss of employee time and resources, disciplinary actions as well as problems with system security and functionality. In addition, cyberloafing may lead to lawsuits, specifically when confidentiality is breached and harassment occurs. All these consequences have vast financial repercussions associated with them (Blanchard & Henle, 2008; Henle & Blanchard, 2008; Lim, 2002; Malhotra, 2013).

Cyberloafing includes activities that lead to the unproductive use of company time (Ozler & Polat, 2012). These activities include browsing, sending emails, online gaming, watching videos, gambling, online shopping, social media activities, engaging in illegal activities, pornography sites, downloading and posting non-work-related information, as well as generating additional income (Lim, 2002; Henle & Blanchard, 2008; Sheikh, Atashgah & Adibzadegan, 2015). Lim therefore defines *cyberloafing* as any voluntary act of employees using their companies' Internet access during office hours to surf non-job-related websites for personal purposes and to check (including receiving and sending) personal email as misuse of the Internet (Lim, 2002, p. 677).

In order to understand employees' tendencies to cyberloaf, individual and organisational factors should be investigated (Malhotra, 2013). This study therefore focuses on the mediating relationship between organisational justice, which is an organisational factor, and organisational trust, work engagement and cyberloafing, which are all individual factors (Al-Shuaibi et al., 2013).

Organisational justice as an antecedent to cyberloafing
Organisational justice is considered a psychological construct. It is based on employees' perceptions of whether they are treated fairly by their organisations and the way and manner in which their work is affected (Moorman, 1991; Rae & Subramaniam, 2008). When unfair treatment is repeated, it is viewed as organisations being disrespectful towards their employees (Rae & Subramaniam, 2008).

Although different opinions have been aired as to whether organisational justice should be seen as informational and interactional justice, distributive, procedural and interactional justice are the three widely recognised types of organisational justice (Katou, 2013). *Distributive justice* is the perception of the fairness of how resources are distributed (salaries, promotions, selection, succession planning, seniority and status) (Mey, Werner & Theron, 2014). *Procedural justice* is concerned with the fairness of organisational decision-making procedures and whether decisions are consistent and justified (Katou, 2013; Mey et al., 2014). *Interactional justice* refers to employees' perceptions and reactions in terms of communication within the organisation and the manner in which they are treated with concern, dignity and respect (Katou, 2013; Mey et al., 2014). Heponiemi et al.

(2011) state that there are two main motivations for organisational justice to be essential: (1) organisational justice is connected to well-being, attitudes and employee productivity and (2) it is a safeguard between unfavourable factors and their negative influences.

Employees often use neutralisation techniques to justify engaging in cyberloafing (Lim, 2005; Rajah & Lim, 2011). *Neutralisation techniques* refer to the a priori rationalisations used by employees to justify their counterproductive behaviour. In Lim's (2005) study, the metaphor of a ledger was used as a neutralisation technique; employees accumulate credit and use it to justify engaging in cyberloafing. This is consistent with social exchange theory, organisational justice and neutralisation (Polzer-Debruyne, 2008).

Previous studies found that organisational justice influences employees' cyberloafing behaviour (Ahmad & Jamaluddin, 2009; Blau, Yang & Ward-Cook, 2006; Lim, 2002). Page (2015) and Restubog et al. (2011), however, found that organisational justice was not strongly related to cyberloafing. It is because of this inconsistency that these relationships were investigated in the current study. Ambrose and Schminke (2009) further indicated that when an employee experiences or reacts to injustice within his or her organisation, it is generally focused on their overall experience of injustice and not necessarily based on a specific injustice type. Research has found that overall justice is related to each of the forms of organisational justice. Therefore it can be said that overall justice can be used to accurately explain the attitudes and behaviours of employees in terms of organisational justice (Schminke, Arnaud & Taylor, 2015).

Based on the aforementioned research, the current study suggests that overall organisational justice and cyberloafing are negatively related. Thus, when employees perceive injustices to occur in their organisation it is likely that they will engage in cyberloafing.

The mediating relationship between organisational justice and cyberloafing through organisational trust

Conceptualising organisational trust is a rather daunting task because the literature consists of various definitions and types thereof, each with its own influence on behaviour (Farndale, Hope-Hailey & Kelliher, 2011). Rousseau, Sitkin, Burt and Camerer (1998, p. 395) define *organisational trust* as 'a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviours of another'. This definition is widely accepted and used for the purpose of the current study.

Organisational trust is an important factor in the success of daily operations and is based on the interactions with various groups within the organisation (DeConinck, 2010; Katou, 2013; Komodromos, 2013). When employees believe that their organisation will behave in a manner that is favourable

and not harmful, organisational trust is likely to increase (Lowry, Posey, Bennett & Roberts, 2015). Employees invest their talent, energy and time towards reaching organisational goals and make themselves vulnerable to the organisation (Agarwal, 2014). Thus, if there is a lack of trust in organisations, employees will not be willing to fully engage in their work functions because they will feel they have been betrayed (Agarwal, 2014).

Organisational trust is a prominent factor when determining whether employees have the tendency to engage in CWB (Alias, Mohd Rasdi, Ismail & Abu Samah, 2013; Lowry et al., 2015). Therefore, it can be said that when organisations have gained their employees' trust, employees are more likely to strive to achieve the organisation's goals (Alias et al., 2013). Consequently, when there is a lack of trust, employees will engage in CWB such as cyberloafing (Alias et al., 2013) and, in so doing, influence their performance (Fourie, 2011).

Organisational trust encourages justice and fairness within organisations (Komodromos, 2013). Aryee, Budhwar and Chen (2002) and Katou (2013) found that all three forms of organisational justice have an impact on organisational trust. In addition, Farndale et al. (2011) and Mey et al. (2014) discovered that a positive relationship exists between organisational trust and perceived organisational justice. Consequently, the expectation is that if perceptions of organisational justice increase the trust employees have in the organisation will also increase and this in turn will reduce cyberloafing. Thus, the current study investigated the mediating effect of organisational trust between organisational justice and cyberloafing.

Work engagement as a mediator in the relationship between organisational justice and cyberloafing

Research on work engagement has become an important topic within industry (Rothmann & Rothmann, 2010). Environmental and individual factors are considered to be determinants of work engagement (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009). Furthermore, individuals who function optimally and add in improving the organisation's interest usually portray high work engagement (Diedericks, 2012; Lin, 2010).

The most recognised perspective used within this study was brought forth by Schaufeli, Salanova, González-Romá and Bakker (2002). This perspective defines *work engagement* as 'positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption' (Schaufeli et al., 2002, p. 74). *Vigour* refers to having exceptional levels of energy and cognitive resilience while devoting more time to one's work tasks irrespective of any difficulties. Dedication is often characterised by having enthusiasm, motivation, meaning, pride and challenge in one's work. Absorption is showed by being completely content with and concentrated on one's work. Therefore, engaged employees are passionate, dedicated and hard-working (Schaufeli et al., 2002).

There are four reasons why engaged employees tend to perform well in their jobs. These reasons relate to the experience of positive feelings, the improvement in overall health (psychological and physical), the creation of personal and job resources and the influence on others' employment levels (Bakker, Schaufeli, Leiter & Taris, 2008). In contrast there are studies indicating that disengagement leads to distrust, burnout and low productivity (Lin, 2010; Ugwu, Onyishi & Rodríguez-Sánchez, 2014). Therefore, when organisational trust is high, employees will be more engaged. Engaged employees are dedicated to their work because they find pleasure in it and demonstrate a willingness to go beyond what is expected (Heine, 2013).

Limited research exists regarding the relationship between organisational justice and work engagement. Studies had conflicting results (Hassan & Jubari, 2010; Inoue et al., 2010; Kim, Del Carmen Triana, Chung & Oh, 2016). Therefore this study aims at examining these relationships and suggests that a mediating relationship exists between organisational justice and cyberloafing through work engagement.

Katou (2013, 2015) further found a mediating effect between organisational justice, organisational trust and employee reactions (including work engagement). This indicates that when organisational justice is visible, organisational trust will develop and lead to a high level of work engagement. Previous studies indicated that work engagement was positively and significantly related to distributive justice, procedural justice and interactional justice (Agarwal, 2014; Hassan & Jubari, 2010; Inoue et al., 2010; Moliner, Martínez-Tur, Ramos, Peiró & Cropanzano, 2008). Therefore, when employees perceive that they are treated fairly, they will have a positive attitude towards their jobs and organisations, thus being more engaged (Moliner et al., 2008) and less likely to engage in cyberloafing. Employees will be more driven and involved when they perceive that organisational justice is present (Inoue et al., 2010).

Research also found a positive link between organisational trust and work engagement (Agarwal, 2014; Chughtai & Buckley, 2011; Heine, 2013; Lin, 2010; Ugwu et al., 2014). Although only procedural and interactional justice was measured, Agarwal (2014) discovered that organisational trust mediates the relationship between organisational justice and work engagement. Lin (2010) suggested that trust between the organisation and employees fosters employees that are more dedicated, innovative and energised. When an organisation fails to keep promises, employees feel the organisation has failed them, which leads to a decrease in trust and work engagement (Lin, 2010).

Chughtai and Buckley (2011) state that if supervisors display care, concern, respect and support towards their subordinates, a sense of obligation is developed among employees to respond to these actions with positive behaviours and attitudes. This may involve greater vigour, dedication and absorption
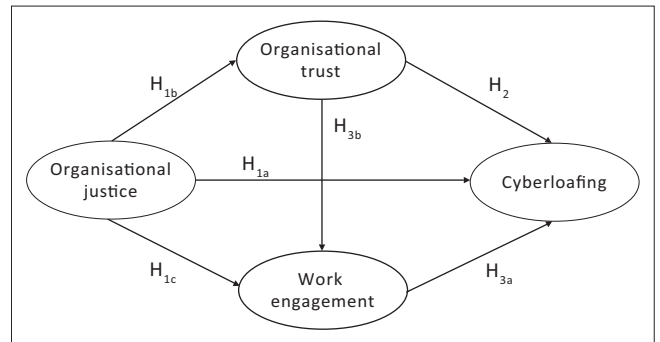
H, hypothesis.

FIGURE 1: Hypothesised research model.

(work engagement) (Agarwal, 2014; Chughtai & Buckley, 2011) or CWB if employees feel that the organisation is unjust or cannot be trusted (De Lara, 2009). In addition, employees with low engagement may engage in CWB in retaliation against an unfavourable work environment (Ariani, 2013). Koopmans, Bernaards, Hildebrandt, De Vet and Van der Beek (2014) found a moderate positive correlation between CWB and overall work engagement as well as a weak to moderate negative correlation between CWB and work engagement subscales. This suggests that, when low levels of work engagement are present, employees will engage in cyberloafing.

Based on the aforementioned overview of the literature, this study made the following hypotheses (see Figure 1):

- **Hypothesis 1a (H_{1a}):** There is a negative relationship between organisational justice and cyberloafing.
- **Hypothesis 1b (H_{1b}):** There is a positive relationship between organisational justice and organisational trust.
- **Hypothesis 1c (H_{1c}):** There is a positive relationship between organisational justice and work engagement.
- **Hypothesis 2 (H_2):** There is a negative relationship between organisational trust and cyberloafing.
- **Hypothesis 3a (H_{3a}):** There is a negative relationship between work engagement and cyberloafing.
- **Hypothesis 3b (H_{3b}):** There is a positive relationship between organisational trust and work engagement.
- **Hypothesis 4 (H_4):** Work engagement mediates the relationship between organisational justice and cyberloafing.
- **Hypothesis 5 (H_5):** Organisational trust mediates the relationship between organisational justice and cyberloafing.

Research method
Research approach

A quantitative cross-sectional research design was utilised to collect data to examine differences and relationships within the target population (Creswell, 2014; De Vos, Strydom, Fouché & Delport, 2011).

Participants

The population of this study was South African office workers within the retail and manufacturing industry who use their organisations' Internet access as part of their daily

TABLE 1: Characteristics of the participants (N = 224).

Item	Category	Frequency	Percentage
Gender	Male	124	55.40
	Female	100	44.60
Race	Black	62	27.70
	White	125	55.80
	Coloured	16	7.10
	Indian	18	8.00
	Asian	3	1.30
Household	Single (living alone)	42	18.80
	Married/living with partner	13	5.80
	Divorced/separated	156	69.60
	Living with parents	13	5.80
Education	Grade 12	102	45.50
	Degree (graduate or honours)	84	37.50
	Diploma	21	10.70
	Postgraduate degree	14	6.30
Home language	Afrikaans	88	39.30
	English	78	34.80
	Sepedi	15	6.70
	Sesotho	7	3.10
	Setswana	5	2.20
	siSwati	3	1.30
	Tshivenda	1	0.40
	isiNdebele	1	0.40
	isiXhosa	6	2.70
	isiZulu	13	5.80
	isiTsonga	6	2.70
	Missing system	1	0.40

work operations. For purposes of this study a convenience non-probability sampling method was applied and participants were therefore selected based on their availability to the researcher (Bryman & Bell, 2015). Employees were made aware of the research project. An electronic link to the survey was sent to office workers at the different locations of the organisation; 224 participants responded. This represents a response rate of 41%. All the questionnaires were workable and were analysed.

Table 1 represents a breakdown of the participants comprising the sample.

The sample comprised 55.4% male and 44.6% female participants, from organisations within the retail and manufacturing industries. White participants represented 55.8% of the sample, followed by 27.7% black African, 7.1% coloured, 8% Indian and 1.3% Asian participants.

In terms of households, 69.6% of participants were divorced or separated, while 18.8% were single or living alone. A total of 45.5% of participants had a grade 12 qualification, followed by 37.5% with a university degree, 10.7% with a diploma and 6.3% with a postgraduate degree. Participants were mainly Afrikaans (39.3%) and English (34.8%) speaking.

Data collection

Permission was obtained from the participating organisations, after which data were collected over a 4-week period. An email with the necessary information regarding the study and an electronic link to the survey were sent to potential participants. A follow-up email was sent after 1 week and another after 2 weeks. Anonymity of participants was ensured by not requesting any information by which the participants could be identified. Participation was voluntary in nature and no incentives were provided to participants for participating in the study.

Measuring instruments

Cyberloafing

Blanchard and Henle's (2008) adapted version of Lim's (2002) self-reporting Cyberloafing scale was utilised to measure cyberloafing. The scale consists of 22 items, of which 'Checked non-work-related email' and 'Visited newsgroups or bulletin boards' are examples. A five-point Likert-type scale ranging from 'never' (1) to 'a great deal' (5) was used. A Cronbach's alpha coefficient of 0.84 for this scale was obtained by Blanchard and Henle (2008). Restubog et al. (2011) obtained a Cronbach's alpha coefficient of 0.94 for this scale.

Organisational trust

The Trust Scale that was developed by Gabarro and Athos (1976) and adapted by Robinson (1995) was used to measure trust. The instrument consists of 10 items (e.g. 'I can expect my employer to treat me in a predictable and consistent manner' as well as 'My employer is always reliable'). The instrument used a five-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'. Mey et al. (2014) found a Cronbach's alpha of 0.86.

Organisational justice

The Perceived Overall Justice (POJ) scale developed by Ambrose and Schminke (2009) was used. The instrument contains six items (e.g. 'In general, the treatment I receive around here is fair'). A seven-point Likert-type scale was used ranging from 'strongly disagree' (1) to 'strongly agree' (7). Furthermore, items POJ2 and POJ6 were reverse scored. In a study regarding job insecurity, organisational justice and employee performance, an alpha coefficient of 0.84 was found (Wang, Lu & Siu, 2015). In addition, when also investigating a mediating effect of work engagement from uncertainty management theory perspective, a Cronbach's alpha coefficient of 0.84 was obtained (Wang et al., 2015).

Work engagement

Work engagement was measured by using the Utrecht Work Engagement Scale developed by Schaufeli et al. (2002). The scale consists of nine items and measures the three dimensions of work engagement: vigour (three items, e.g. 'When I get up in the morning, I feel like going to class/work'), dedication (three items, e.g. 'I'm enthusiastic about my study/job') and absorption (three items, e.g. 'When I'm studying/working, I forget everything around me'). The instrument used a seven-point frequency scale ranging from 0 (never) to 7 (every day). Storm and Rothmann (2003) found acceptable internal consistency for the scale.

Statistical analysis

The statistical analysis was conducted with Mplus 7.31 (Muthén & Muthén, 2015). The study utilised structural equation modelling to test the research model. The mean and variance adjusted weighted least square estimation method was used, which is suitable for categorical data analysis (Rhemtulla, Brosseau-Liard & Savalei, 2012).

Specifically confirmatory factor analysis was further used to determine the factor loadings of the observed constructs in a measurement model. The goodness of fit was evaluated by examining the following fit indices against the cut-off criteria shown in parentheses: comparative fit index (CFI; ≥ 0.90), Tucker–Lewis index (TLI; ≥ 0.90) and the root mean square error of approximation (RMSEA; ≤ 0.08) (Cudeck & Browne, 1993; Schermelleh-Engel, Moosbrugger & Müller, 2003). The reliability of the instruments was determined by means of Cronbach's alpha. Values of 0.70 and above were considered acceptable for the Cronbach's alpha coefficients (Struwig & Stead, 2001). In addition, correlations were determined between the latent constructs. The practical significance for correlation coefficients were viewed to be a medium practical effect if the values were 0.30 and above and a large practical effect if the values were 0.50 and above (Cohen, 1992). Structural regressions were then used to determine the direction and statistical significance of the beta coefficients, which were used to investigate hypotheses H_{a1}–H_{3b}. The parameters of the model were tested at an alpha level of 0.05 ($p < 0.05$).

In addition, to investigate hypotheses 4 and 5, a mediation analysis was conducted using bootstrapping to obtain estimates and confidence intervals (CIs). Bootstrapping was set to 10 000 resampling draws and used to determine the indirect relationships between the constructs. When the CI did not include zero, the parameter was deemed to be significantly different from zero.

Results
Measurement models: Fit, factor loadings, reliability and correlations

The confirmatory factor analysis (CFA) results indicated that the measurement model adequately fitted the data (CFI = 0.94; TLI = 0.93; RMSEA = 0.05). Interpretation of the model results therefore continued without any post hoc modifications to the model. Table 3 presents the means, standard deviations and correlation matrix for the study variables, with the Cronbach's alpha coefficients on the diagonal in brackets for each construct.

As can be seen from Table 2, all of the individual items loaded significantly ($p < 0.001$) on the corresponding factors. Normally, scored items are presented as positive values and reversed scored items are indicated with negative values.

All the Cronbach's reliability coefficients were above the cut-off threshold ($\alpha \geq 0.70$), demonstrating acceptable internal

TABLE 2: Factor loadings for the latent variables.

Factor	Item	Loading	SE	p
Organisational justice	just1	0.91	0.01	0.001
	just2	-0.66	0.04	0.001
	just3	0.71	0.03	0.001
	just4	0.92	0.01	0.001
	just5	0.93	0.01	0.001
	just6	-0.66	0.04	0.001
Work engagement	uwes1	0.50	0.07	0.001
	uwes2	0.61	0.05	0.001
	uwes3	0.85	0.03	0.001
	uwes4	0.87	0.03	0.001
	uwes5	0.74	0.04	0.001
	uwes6	0.68	0.05	0.001
	uwes7	0.71	0.04	0.001
	uwes8	0.77	0.04	0.001
	uwes9	0.48	0.05	0.001
Organisational trust	trust1	0.82	0.82	0.001
	trust2	0.74	0.74	0.001
	trust3	-0.78	-0.78	0.001
	trust4	0.81	0.81	0.001
	trust5	-0.86	-0.86	0.001
	trust6	0.87	0.87	0.001
	trust7	-0.73	-0.73	0.001
	trust8	0.92	0.92	0.001
	trust9	0.87	0.87	0.001
	trust10	0.95	0.95	0.001
Cyberloafing	loaf1	0.72	0.03	0.001
	loaf2	0.76	0.03	0.001
	loaf3	0.75	0.03	0.001
	loaf4	0.59	0.05	0.001
	loaf5	0.63	0.04	0.001
	loaf6	0.65	0.04	0.001
	loaf7	0.68	0.04	0.001
	loaf8	0.59	0.04	0.001
	loaf9	0.63	0.05	0.001
	loaf10	0.64	0.05	0.001
	loaf11	0.45	0.06	0.001
	loaf12	0.60	0.06	0.001
	loaf13	0.74	0.06	0.001
	loaf14	0.51	0.05	0.001
	loaf15	0.50	0.06	0.001
	loaf16	0.67	0.05	0.001
	loaf17	0.54	0.06	0.001
	loaf18	0.62	0.07	0.001
	loaf19	0.51	0.05	0.001
	loaf20	0.81	0.03	0.001
	loaf21	0.59	0.06	0.001
	loaf22	0.72	0.04	0.001

SE, standard error; all p-values < 0.001; reversed items have negative loadings.

consistency for all of the factors (Table 3). Specifically, the lowest value was for organisational justice ($\alpha = 0.73$) and the highest value for cyberloafing ($\alpha = 0.93$). The mean scores, adjusted for reversed items, showed that participants tended towards answering on the positive side ('agree') of the scales for organisational justice, organisational trust and work engagement but between 'never' and 'rarely' on the cyberloafing scale. In terms of the correlational relationships between the variables, the correlation matrix showed that cyberloafing was negatively correlated with work engagement ($r = -0.21$). The results, however, showed no significant correlations between cyberloafing and either organisational justice or trust ($p > 0.05$).

TABLE 3: Reliabilities and correlation matrix for the latent variables.

Variables	Mean	SD	1	2	3	4
1. Organisational justice	3.55	0.79	(0.73)	-	-	-
2. Organisational trust	4.04	1.13	0.59*‡	(0.82)	-	-
3. Work engagement	4.88	0.93	0.26*†	0.44*†	(0.89)	-
4. Cyberloafing	1.74	0.44	-0.01	-0.05	-0.21*	(0.93)

SD, standard deviation; mean and SD based on total scores; Cronbach's reliability coefficients in brackets on the diagonal.

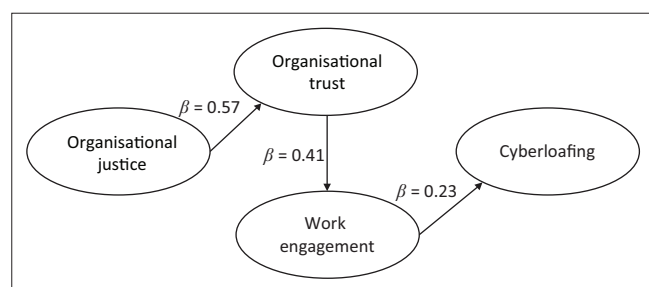†, Medium practical effect; ‡, large practical effect.

*, Correlation statistically significant $p < 0.01$.

TABLE 4: Regression results for the structural model.

Structural path	β	SE	p	Result
Organisational justice – organisational trust	0.57	0.04	0.001	Significant
Work engagement – cyberloafing	-0.23	0.07	0.001	Significant
Organisational trust – take over engagement	0.41	0.07	0.001	Significant
Organisational justice – work engagement	0.02	0.07	0.801	Not significant
Organisational justice – cyberloafing	0.03	0.08	0.651	Not significant
Organisational trust – cyberloafing	0.03	0.08	0.680	Not significant

β, beta coefficient; SE, standard error.

p, two-tailed statistical significance; $p < 0.001$

β, beta coefficien.

FIGURE 2: Structural model with significant regressions.

Furthermore, organisational justice was positively correlated with both organisational trust ($r = 0.59$; large practical effect) and work engagement ($r = 0.26$; borderline medium practical effect). Organisational trust positively correlated with work engagement ($r = 0.44$; medium practical effect). Organisational justice was therefore positively correlated with organisational trust and work engagement, as expected.

Structural model fit and regression results

In accordance with the research hypotheses (H_{1a}–H_{3b}), regression paths were added to the final measurement model to constitute the structural model. The structural model also fitted the data (CFI = 0.92; TLI = 0.92; RMSEA = 0.05). The results of the regressions are presented in Table 4.

Organisational justice had a positive relationship with organisational trust ($\beta = 0.57$, SE = 0.04, $p = 0.001$; supporting H_{1b}). Furthermore, a statistically negative relationship was found between work engagement and cyberloafing ($\beta = -0.23$, SE = 0.07, $p = 0.001$; supporting H_{3a}). Organisational trust had a positive relationship with work engagement ($\beta = 0.41$, SE = 0.07, $p = 0.001$; supporting H_{3b}). Therefore, collectively, H_{1b}, H_{3a} and H_{3b} were supported. However, H_{1a}, H_{1c} and H_2

were rejected. Figure 2 presents the regression relations between cyberloafing, organisational justice, organisational trust and work engagement.

Indirect effects

Based on the significant regression results (as can be seen in Figure 2) two potential indirect effects (mediation models) were possible, that is (1) the mediating role of organisational trust in the relationship between organisational justice and work engagement and (2) the mediating role of work engagement in the relationship between organisational trust and cyberloafing. It is important to note that no direct relationships were significant in this model from organisational to the mediated outcome cyberloafing – indicating only the potential for full mediating factors (indirect only) and not partial (complementary mediation models) (Zhao, Lynch & Chen, 2010). A positive indirect effect of 0.24 from organisational justice to work engagement was found with organisational trust as mediator [$p < 0.001$; 95% CI (0.14, 0.34)]. Furthermore, work engagement was found to be a mediator in the relationship between organisational trust and cyberloafing, but this estimate was negative, indicating that organisational trust can reduce the occurrence of cyberloafing – but only through work engagement. Neither of these two relationships had any significant direct effects on their respective outcome variables, indicating that potential hidden relationships were presented in the model and did not exist if not for the mediators. Further, no significant effects were found for cyberloafing; consequently hypotheses 4 and 5 are rejected.

Discussion

The main objective of this study was to investigate the relationships between cyberloafing, organisational justice, work engagement and organisational trust among office workers within the retail and manufacturing industry. The literature review that was conducted revealed that these constructs have not been researched together in a single study. This research further provided a more in-depth understanding of the relationships that exist between these four constructs.

Summary of findings

The first objective was to examine the relationships between organisational justice, organisational trust, work engagement and cyberloafing. The results showed that the direct relationship between organisational justice and

cyberloafing was not significant, nor was the direct relationship between organisational justice and work engagement; therefore, both H_{1a} and H_{1c} were rejected. The reason for this may be attributed to the exchange relationship where organisational justice is evaluated against the behaviour of the organisation, supervisor and employee (Cohen-Charash & Spector, 2001). Therefore, organisations may treat their employees fairly but they still continue to engage in cyberloafing because of supervisors or co-workers. It might be that employees still perceive that they are treated unfairly by these supervisors and co-workers. In addition, limited research exists on the relationship between organisational justice and work engagement. In this study employees might have felt that they were treated unfairly by their organisation. This can result in lower work engagement levels (Wang et al., 2015). Furthermore, most studies that found a relationship between organisational justice and work engagement measured organisational justice separately, which suggests that only certain factors are perceived to be unfair and not the entire organisation (Hassan & Jubari, 2010; Inoue et al., 2010).

No significant relationship was found between organisational trust and cyberloafing, which led to the rejection of H_2. Previous studies found a negative relationship between organisational trust and CWB; therefore, employees may engage in other forms of CWB and not only in cyberloafing to retaliate against their organisation (Alias et al., 2013; Lowry et al., 2015). The potential reason for the result may also be that cyberloafing has become an organisational norm (Page, 2015) or that it is a constructive distraction to relieve stress and restore energy (Lim & Chen, 2012). This shows that, although employees believe that their employer has their best interest at heart, they will still engage in cyberloafing behaviour.

As expected, the results indicated that a positive relationship exists between organisational justice and organisational trust, which supports H_{1b}. This finding is supported by previous research by Farndale et al. (2011) and Mey et al. (2014), who found a positive relationship between organisational trust and perceived justice. These studies measured overall organisational justice. They further suggested that when employees perceive their organisations to be fair they will display higher levels of trust in management and the organisation. Previous research has also found a positive relationship between procedural, distributive and interactional justice and organisational trust (Agarwal, 2014; Aryee et al., 2002; Cohen-Charash & Spector, 2001; DeConinck, 2010; Katou, 2013; Wong, Wong & Ngo, 2012).

The final objectives were to examine whether organisational trust mediates the relationship between organisational justice and cyberloafing and further to determine whether work engagement mediates the relationship between organisational justice and cyberloafing. The current study, however, did not find these mediating relationships, therefore rejecting H_4 and H_5. These inconsistencies can be explained by employees

trusting their organisations and feeling that they are being treated fairly. However, it is possible that employees engage in cyberloafing behaviour due to a low workload demand, boredom or because their work is not challenging enough and not due to a lack of trust or justice (Page, 2015). Furthermore, the current study investigated overall justice and did not investigate the types of justice separately as was done in studies where procedural, interactional and distributive justice were found to be related to work engagement (Hassan & Jubari, 2010; Inoue et al., 2010). The participants may further experience injustice related to a procedure that is associated with a specific type of justice, which is not measured in this study, but influences work engagement levels. In addition, employees may retaliate against distrust or unfair treatment by engaging in other forms of CWB and not necessarily cyberloafing specifically.

Although the researcher did not explicitly hypothesise mediating relationships between organisational justice, work engagement or organisational trust and cyberloafing, these were also tested. The results revealed that there was indeed a significant mediating relationship between organisational trust, work engagement and cyberloafing, indicating that work engagement is the mechanism by means of which cyberloafing is suppressed when organisational trust is perceived. This also makes intuitive sense; when employees are engaged in their work, they are less likely to be busy with non-work activities. The results also showed that there was a mediating relationship between organisational justice and work engagement through organisational trust. This may indicate that when employees perceive their organisations to be fair, trust towards the organisation might increase, which in could turn lead to engaged employees. These relationships are consistent with previous research, which found that organisational trust and work engagement are related (Agarwal, 2014; Chughtai & Buckley, 2011; Heine, 2013; Lin, 2010; Ugwu et al., 2014). This research also support H_{3b}, which stated that organisational trust had a significant relationship with work engagement. At least two other studies also found support for H_{3a}; Ariani (2013) as well as Koopmans et al. (2014) found negative relationships between work engagement and CWB. Counterproductive work behaviour is seen as the umbrella term under which cyberloafing is classified; hence it can be concluded that a negative relationship exists between cyberloafing and work engagement. This indicates that when employees feel that their organisations cannot be trusted, they might become disengaged, which could then lead to higher cyberloafing tendencies. Therefore it can be postulated that cyberloafing behaviour might negatively influence the productivity of the employees.

Practical implications

This study provides evidence that employee perceptions are important in the interest of preventing cyberloafing behaviours within South African organisations. Consequently organisations should focus on the perceptions of their

employees regarding organisational justice and trust, since two constructs influence employees' work engagement levels. Levels of work engagement in turn has been found to suppress cyberloafing behaviours.

Our results provide empirical support for greater fairness when it comes to decisions and procedures. Organisations might consider monitoring systems to address cyberloafing as well, but scholars have suggested that having a cyberloafing monitoring system in place can have the reverse intended effect and decrease organisational trust and work engagement, which in turn influences employee morale and productivity negatively (Gumbus & Grodzinsky, 2009). However, it is also necessary to consider other factors that can impact cyberloafing, such as demographics, employee boredom, job dissatisfaction, self-regulation, intrinsic motivation and personality factors (Jia & Jia, 2015; Kim et al., 2016; Ozler & Polat, 2012).

Limitations and direction for future research

Limitations of this study are related to the data collection and analysis process. The first limitation might be the manner in which the cyberloafing construct was measured. For example, cyberloafing was measured with a self-reported questionnaire; objective information might have provided a more accurate reflection of the participants' Internet usage behaviour. However, such data were unavailable for this study.

It is further possible that common method bias influenced the correlations between the constructs. External validity (generalisability) can also be viewed as a possible limitation. External validity refers to how the interpretations and results can be generalised (Polit & Beck, 2010). This study was conducted within two sectors only; therefore research should focus on other sectors in order to generalise the outcomes to the entire South African population. Furthermore, the sample size may have had a potential impact on the strengths of the relationships. Another limitation relates to the manner in which organisational justice was measured. This study measured overall organisational justice, therefore excluding the three types of organisational justice. Furthermore, the study could extend the measurement of organisational trust to the other types of organisational trust, such as supervisory trust. By focusing on a specific population, more definite conclusion and customised initiatives could be developed.

Lastly, a cross-sectional research design was used in this study, which had an impact on exploring causal relationships between constructs. Conducting a longitudinal design to determine the causal effect between the constructs is suggested (Rindfleisch, Malter, Ganesan & Moorman, 2008). These recognised limitations can assist future researchers in defining future studies. In addition, limited research exists regarding the motivation behind cyberloafing. Future research can therefore explore the relationship between cyberloafing and motivation.

Conclusion

This study presented evidence of the relationships between organisational justice, organisational trust, work engagement and cyberloafing. Specifically, when organisations are perceived to be fair, it increases organisational trust, which then leads to a higher level of work engagement and consequently reduces the occurrence of cyberloafing behaviour. Organisations should therefore not neglect employees' perceptions of fairness and trust; they should consider interventions to decrease unfair behaviour towards employees and to build employees' trust and engagement levels.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

A.O. was the Master's student who initialised the research topic, collected the data and wrote the majority of the article. G.H.R. was the main supervisor. L.T.d.B. was the co-supervisor and also assisted with the statistical calculations.

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