Controls and performance: assessing the mediating role of creativity and collegiality

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Abstract
This study examines the mediating role of two types of employee related behaviour, creativity and collegiality, in the association between the use of Snell’s (1992) three control types (i.e. input, behaviour, and output) with individual employee job performance and organisational performance. An online survey questionnaire was used to collect data, with 203 responses received from Australian lower-level managers. The findings reveal that while output controls influence both individual employee job performance and organisational performance directly, creativity and collegiality play significant roles in mediating the associations between input and behaviour controls with both individual employee job performance and organisational performance. Overall, the findings contribute to the MCS literature by providing an empirical insight into how the use of different types of controls can enhance specific aspects of performance, i.e. individual employee job performance, and organisational financial and non-financial performance, via employee related behaviour (creativity and collegiality). Such findings have important implications for practice.

Keywords Input controls · Behaviour controls · Output controls · Creativity · Collegiality · Job performance · Organisational performance

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1 Introduction

This study contributes to the Management Control System (MCS) literature by focusing on the mechanisms through which MCSs and more specifically Snell’s (1992) three types of controls (i.e. input, behaviour and output), affect performance. In particular, we extend this literature by examining the mediating role of a unique factor, employee-related behaviour (creativity and collegiality), in the association between Snell’s (1992) three types of controls with individual employee job performance and organisational performance (financial and non-financial).

Our focus on the mediating role of employee-related behaviour provides an empirical insight into “the mechanism[s] through which the human resource architecture actually influences firm performance” (Becker & Huselid, 2006, 900) and is motivated by recent literature that proposes an explicit assumption that MCSs affect employee behaviour within the organisation, which in turn affects organisational outcomes (Hall, 2008; Merchant & Van der Stede, 2007). Accordingly, acknowledging the importance for organisations to leverage on their human capital (Raffer, 2018; Uddin & Arif, 2016), we examine how MCSs (Snell’s (1992) input, behaviour and output controls) are used to enable favourable employee behaviour (creativity and collegiality) which in turn is expected to facilitate desirable outcomes, specifically employee job performance and organisational performance (financial and non-financial).

We consider the mediating role of two types of employee-related behaviour, creativity and collegiality, which were chosen as they represent desirable employee behaviours that are expected to assist organisations in achieving organisational outcomes (Chang et al., 2020) i.e. both creativity (Anderson et al., 2014; Speckbacher, 2017) and collegiality (Su & Baird, 2017) are considered desirable and beneficial for organisations. Hence, they represent positive employee behaviours which are expected to facilitate (i.e. mediate) the influence of MCSs (input, behaviour and output) controls on performance (employee job performance and organisational performance). In addition, as there is sparse empirical research examining their effect on outcomes in a business environment and mixed (no) empirical evidence concerning the effect of MCSs on creativity (collegiality), there is an opportunity to extend both the employee-related behaviour literature and the MCS literature by considering their mediating effect in the association between controls and performance.

Creativity refers to the generation of novel and useful ideas (Amabile, 1988; Amabile et al., 1996; Gong et al., 2013) including “ideas for new products, processes or services within the organisation’s line of business to ideas for new procedures or policies within the organisation itself” (Amabile, 1988, 126). Accordingly,
we conceptualise and operationalise creativity in respect to employees’ engagement in creative activities (e.g., the generation of ideas and/or employing new processes/methods) and hence, we view creativity as an employee behaviour (i.e. their propensity to engage in creative activities) as opposed to an outcome. Rather, in line with Weinzimmer et al. (2011) who argue that the success of creativity is related to the employment of those ideas (i.e. demonstrated creativity) and can be quantified in respect to individual employee work outcomes and organisational performance, we assess the success of such creative behaviour in respect to individual employee job performance and organisational performance.

Creativity is chosen as a plausible mediator of the relationship between the use of types of controls and performance for several reasons. First, while there is a general assumption that controls stifle creativity (Burns & Stalker, 1961; Gilson et al., 2005; Thompson, 1965) recent management accounting literature has advocated the role of MCSs in enhancing creativity (Adler & Chen, 2011; Davila et al., 2009; Speklé et al., 2017) and hence, there is uncertainty in respect to this relationship. Davila et al. (2009) here acknowledge that while MCSs play a crucial role in shaping organisations, more empirical evidence is required in respect to their influence on creativity. Secondly, given employee creativity is now considered to be one of the critical sources to help organisations to develop a competitive advantage (Anderson et al., 2014; Speckbacher, 2017), greater empirical insight into its role in achieving organisational outcomes is warranted.

While organisations endeavour to encourage creativity amongst employees, organisations face a dual challenge of achieving desired organisational outcomes while stimulating creativity (Grabner & Speckbacher, 2016). Specifically, while Speklé et al. (2017) confirm that there is no conflict between controls and creativity, and Davila and Ditillo (2017) conclude that MCSs do not undermine creativity, whether creativity can lead to positive organisational outcomes remains unexplored (Weinzimmer et al., 2011). Therefore, given the conjecture as to the influence of controls on creativity and the effectiveness of such creativity, it is crucial to not only examine how controls affect creativity, but to also examine the subsequent impact of creativity on organisational outcomes. Hence, this study aims to extend our understanding by examining the mediating role of creativity in the association between Snell’s (1992) three types of controls with employee job performance and organisational performance (financial and non-financial).

Collegiality is defined as the cooperative interaction between colleagues and collective responsibility shared by colleagues (Cipriano, 2011). In a collegial working environment, different views and opinions are encouraged and supported in an open and respectful manner (Hudic, 2006). Collegiality provides a supportive work environment which encourages enthusiasm and contributes to staff development and growth, thereby enhancing employees’ ability (Su & Baird, 2017). While the importance of collegiality is highlighted in numerous studies within the education sector (Hellawell & Hancock, 2001; Jarzabkowski, 2003; Little, 1990; McLaughlin, 1993; Ret al.,lick & Butt, 2004; Su & Baird, 2017), it has been virtually ignored in the business environment, although reference has been made to the influence of MCSs on similar employee related behaviour aspects including organisational citizenship.
(Burney et al., 2009), both knowledge sharing and extra-role behaviour3 (e.g. Cheng & Coyte, 2014). We assess collegiality in respect to the extent to which employees trust, interact, support and assist each other at work. The professional interactions and collective responsibility rely on knowledge sharing and trust of colleagues, and involves engaging in discretionary behaviour “beyond the requirements of the job” (Burney et al., 2009, 310) i.e. organisational citizenship, “which promotes the effective and effective functioning of the firm” (Cheng & Coyte, 2014, 123).

We acknowledge here that the characteristics of collegiality are inherently associated with control systems. For instance, Macintosh (1994), Kober et al. (2003) and Merchant and Van der Stede (2017) incorporate collegiality as a part of informal controls in their proposed control typologies. However, given Snell’s (1992) control typology only focuses on formal controls (Cardinal, 2001; Krause & Swiatczak, 2020; Su et al., 2015) and our operationalisation of collegiality focuses on employees’ sense of collegiality within their organisation, as opposed to the existence of formal control mechanisms designed to establish and/or enforce collegiality, we consider these as distinct factors. In particular, motivated by Garmston and Wellman (2003) who argue that collegiality needs to be structured and encouraged, we consider collegiality as an employee related behaviour that is influenced by formal controls i.e. Snell’s (1992) input, behaviour and output controls. In addition, while there is evidence of a positive association between collegiality and academic performance (Edgar & Geare, 2013; Ramsden, 1994; Su & Baird, 2017), there is uncertainty regarding the effect on outcomes in a business context, and therefore, the study examines the subsequent impact of collegiality on employee job performance and organisational performance. Hence, this study contributes to the MCS literature by examining the mediating role of collegiality in the association between MCSs with employee job performance and organisational performance.

Figure 1 provides an overview of the proposed model. Covariance based Structural Equation Modelling (SEM) was used to analyse data collected from a survey questionnaire of 203 lower-level managers in Australian business organisations. The results reveal that while output controls enhance organisational performance directly, the positive impact of input and behaviour controls on organisational performance is enacted through creativity and collegiality. Further, while creativity and collegiality play a significant role in mediating the positive association between both input and behaviour controls with employee job performance, behaviour controls can also directly improve employee job performance. Interestingly, output controls were found to be negatively associated with employee job performance.

The remainder of the paper is divided into four sections. The next section provides a relevant literature review and develops the hypotheses, with the subsequent section discussing the research method and data collection process. The final two sections provide the results and present the conclusions, limitations and suggestions for future research.

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3 Defined as “a discretionary activity not directly or explicitly recognised by the formal reward system and which promotes the efficient and effective functioning of the firm” (Cheng and Coyte, 2014, 123).
2 Literature review and hypotheses development

2.1 Controls and creativity

For many decades, controls were labelled as incompatible with creativity with the proposition that controls undermine employees’ autonomy and freedom thereby stifling employees’ creative thoughts and output at work (Amabile et al., 1996; Burns & Stalker, 1961; Thompson, 1965; Zhou & George, 2003). However, a growing literature proposes an alternative theory arguing that controls are not always perceived by employees as a negative signal of distrust and restrictions, and hence they may not discourage creativity (Falk & Kosfeld, 2006; Prendergast, 2008; Shalley et al., 2004).

There is a limited number of studies that have provided empirical evidence of the association between controls and creativity (Appuhami, 2017; Chen et al., 2012; Cools et al., 2017; Grabner, 2014; Grabner & Speckbacher, 2016; Kachelmeier & Williamson, 2010; Kachelmeier et al., 2008; Moulang, 2015; Li & Sandino, 2018; Speckle et al., 2017). Some of these studies focus on how the approaches to using controls, using Simons’ (1995) levers of controls, affect creativity (Cools et al., 2017; Davila & Ditillo, 2017; Moulang, 2015; Speckle et al., 2017), while other studies focus on how specific types of controls affect employee creativity such as incentive based pay schemes (Chen et al., 2012; Grabner, 2014; Grabner & Speckbacher, 2016; Kachelmeier & Williamson, 2010; Kachelmeier et al., 2008), strategic performance measurement systems (i.e. multidimensional performance measures) (Appuhami, 2017), and an information sharing system recording employees’ creative work (Li & Sandino, 2018).

Given the limited research examining the relationship between controls and creativity and in line with Davila et al.’s (2009) call for more research on how controls
influence creativity, this study aims to extend our understanding of the relationship between controls and creativity by examining how Snell’s (1992) three types of controls (i.e. input, behaviour and output) affect employee creativity. Snell’s (1992) control model is chosen to examine creativity for several reasons. First, Jiang et al. (2012) argue that creativity is dependent on how to develop employee capabilities and motivate them to formulate ideas, while Su et al. (2015) suggest that Snell’s (1992) model is an ideal MCS model as it regulates both ability and motivation. Hence, Snell’s (1992) control model is considered to be highly relevant to examine creativity. Secondly, since input controls manage the drivers of performance, such as employee knowledge and skills, while behaviour and output controls manage the performance process and results respectively, the notion of input controls provides a ‘symmetrical counterpart’ to behaviour and output controls. The control model developed by Snell (1992) is therefore considered to provide a full range of organisational formal controls (Cardinal, 2001). Thirdly, Johnson (2011) suggests that Snell’s (1992) model is one of the few which has been applied in innovation setting research. Finally, Snell’s (1992) model has also been well used in the MCS literature (e.g. Abernethy et al., 2007; Snell & Youndt, 1995; Su et al., 2015).

According to Snell (1992), input controls relate to staff selection, recruitment and training, and can be used to control the degree and variety of employees’ knowledge, skills and attitudes to their jobs. Behaviour controls focus on observing employees’ ongoing behaviour and regulate the way in which tasks are completed. Output controls focus on the achievement of desired outcomes regardless of the means to achieve the targets. The following section develops hypotheses in regard to the association between these three types of controls and creativity.

2.2 The association between input, behaviour and output controls with creativity

Input controls focus on the initial introduction of human resources into the organisation (Johnson, 2011). Common input controls, in the form of appropriate staff selection and recruitment, are applied to ensure that employees have adequate knowledge and skills to perform their tasks (Cardinal et al., 2004; Snell, 1992). Scarbrough (2003) posits that the selection of employees with adequate knowledge and skills enables firms to integrate knowledge from diverse sources and thereby stimulate creative ideas. This is empirically supported by Jiang et al. (2012) who found a positive association between the appropriate hiring of competent employees and employee creativity.

In addition, input controls involve providing employees with necessary training before assigning responsibilities to them and on-going skill development programs (Snell, 1992). Shipton et al. (2006) here argues that appropriate recruitment and training are essential to promote creativity and innovation. Specifically, it is argued that when employees struggle to perform their daily routine tasks, they are unlikely to analyse their tasks critically and propose change. Similarly, Nonaka and Takeuchi (1995) suggest that on-going training programs provide employees with the opportunity to be exposed to new knowledge and expertise, thereby broadening their
insights and enhancing the likelihood that they will think outside of the box and explore new ideas and concepts, i.e. be creative.

Therefore, we hypothesise:

**Hypothesis 1a** The extent of use of input controls is positively associated with the extent of creativity.

Behaviour controls consist of a set of formal rules and procedures regarding how tasks should be performed. Supervisors regularly monitor employees’ behaviour to ensure they are complying with policies and procedures (Snell, 1992). Previous literature has provided empirical evidence to suggest that behaviour controls undermine employees’ job autonomy and stifle creativity. For example, Jiang et al. (2012) found that job design, including job autonomy, is positively associated with the overall level of employee creativity. Similarly, Sia and Appu (2015) found a positive association between work autonomy and workplace creativity, suggesting that creativity is higher when employees have freedom at work, i.e. behaviour controls are less stringent.

However, a different perspective on this relationship has recently emerged. For instance, Wouters and Roijmans (2011) found that establishing standard goals and procedures can encourage experimentation and stimulate creative acts and processes. Such a finding is echoed in other studies which claim that through serving to clarify performance expectations and reducing role ambiguity, behaviour controls can empower employees, thereby enabling them to be creative within specified boundaries (Hall, 2008; Marginson & Ogden, 2005; Marginson et al., 2014). This argument is supported by Baird et al. (2018) who assert that constraining controls may provide employees with the stability in performance to enable them to explore potential opportunities. This is also consistent with Davila and Ditillo (2017) who argue that defining the boundaries of the creative space can actually enhance creativity by providing a balance between being creativity and meeting business needs.

Therefore, while the findings from earlier studies suggest a negative association between behaviour control and creativity, in line with the findings and arguments put forward in more recent studies we hypothesise a positive association.

**Hypothesis 1b** The extent of use of behaviour controls is positively associated with the extent of creativity.

Output controls focus on the achievement of desired results, leaving the processes used to achieve such results to employees themselves (Snell, 1992). Therefore, employees have the autonomy to initiate ideas and make decisions about their work. Such an approach fosters creativity though reinforcing employees’ sense of ownership and control over their tasks (Adler & Chen, 2011), allowing employees to explore their ideas freely (Dutta & Punnose, 2010), encouraging employees to challenge their views in respect to work processes and procedures (Jones & McFadzean, 1997), thereby stimulating “intrinsic desires to create and innovate” (Simon, 1995, 155). In addition, based on the results from an experiment, Kachelmeier et al. (2008)
identified a positive association between creativity-based rewards (i.e. an output control) and employee creativity, although such enhanced creativity did not subsequently lead to improved productivity at the organisational level.

Alternatively, while specific studies have highlighted the important role of autonomy in enhancing creativity (Adler & Chen, 2011; Amabile, 1997; George & Zhou, 2001), Speklé et al. (2017) argue that while “feelings of autonomy matter, the work environment itself plays a significant role, too (e.g. Amabile & Pillemcr, 2012; Anderson et al., 2014; Hirst et al., 2011)” (Speklé et al., 2017, 78). In particular, when employees’ performance will only be evaluated and rewarded based on the results achieved, the goal of meeting desired outcomes (i.e. output controls) may discourage employees from endeavouring to employ more open-ended and uncertain creative activities. Similarly, Amabile (1997, 44) maintains that as the emphasis on outputs increases, employees’ “attention will be directed towards the extrinsic motive (such as attaining favourable evaluation and/or rewards) and away from the task itself”, and hence, instead of exploring creative pathways to perform tasks, employees will tend to minimise divergent thinking and apply ‘safe’ and well-learned approaches that lead directly toward desired outcomes This is reinforced by Cardinal (2001) who asserts that as the use of output controls increases, the likelihood of creativity decreases.

Hence, while employees have the autonomy to be creative, they fear failing to meet desired outcomes. Therefore, given that there is no clear indication whether the positive effect of autonomy outweighs the negative effect of the pressure to meet desired outcomes on creativity, we formulate a null hypothesis between output controls and creativity.

**Hypothesis 1c** The extent of use of output controls is not significantly associated with the extent of creativity.

### 2.3 Controls and collegiality

Collegiality refers to mutual respect and support, sharing and trust amongst colleagues (Ret al.,lick & Butt, 2004). It facilitates teamwork and encourages participative decision making (Christopher, 2012). Numerous studies have highlighted the importance of collegiality within the education sector with Riccardi (2013, 1) stating that “collegiality matters, and it matters at all levels of interaction, from a faculty member to a department to university as a whole”. Su and Baird (2017) provide empirical evidence that collegiality enhances academics’ commitment to their organisation and their job satisfaction and reduces academics’ job-related stress. However, although collegiality has drawn adequate attention in the education section it has been largely ignored in the business domain, which emphasises ‘accountability’ and ‘efficiency’ as opposed to ‘collegiality’. Furthermore, while a number of management approaches have been introduced in business organisations in an attempt to better manage employees to achieve working efficiency and organisational success, Hudec (2006) maintains that the most effective management practice is collegiality. Similarly, Bhattacharyya (2017) posit that collegiality is the key in
talent retention management, while ten Brummelhuis et al. (2010) argue that collegiality has become more important than ever in business organisations due to the increasing prevalence of cooperative work. Therefore, given the significant evidence positing the benefits of collegiality and the sparse research examining it in a business context, this study seeks to provide the first empirical evidence in relation to how different types of control, specifically Snell’s (1992) control typology consisting of input, behaviour and output controls, influence collegiality, and the influence of collegiality on employee job performance and organisational performance.

While some control typologies (e.g. Kober et al., 2003; Macintosh, 1994; Merchant & Van der Stede, 2017) incorporate collegiality as part of the informal controls in their proposed control typologies, as Snell’s (1992) control typology only focuses on formal controls (Cardinal, 2001; Krause & Swiatczak, 2020; Su et al., 2015) and we conceptualise and operationalise collegiality in respect to employees’ sense of collegiality within their organisation as opposed to the existence of formal control mechanisms, we consider collegiality as an employee related behaviour which is influenced by Snell’s (1992) three types of control (input, behaviour and output).

The following section develops hypotheses in regard to the association between each of Snell’s (1992) three types of controls with collegiality.

2.4 The association between input, behaviour and output controls with collegiality

Input controls, in the form of employee recruitment philosophies and training procedures, have the ability to influence the level of collegiality within an organisation. First, in respect to staff selection, organisations can use the recruitment process to employ staff who possess inherent personal characteristics such as being trustworthy and a willingness to share knowledge and expertise, which are reflective of collegiality (Su & Baird, 2017). Secondly, employee training can be used both to educate employees that an organisation values collegiality and wishes to develop a supportive cooperative working environment, and to develop employee skills, thereby enhancing the likelihood that they will act in a collegial manner. This may transpire for a few reasons. First, training serves to enhance the ability of employees to provide such support to their colleagues. Secondly, there is substantial evidence suggesting that the willingness of employees to engage in extra-role behaviour is influenced by their work pressure (ten Brummelhuis et al., 2010). Hence, given that training enhances the competency of employees through developing their knowledge and skill development, employees in organisations which emphasise such controls are expected to be more capable of performing their work, thereby increasing the likelihood that they will be willing to help others.

Thirdly, in line with social exchange theory, when organisation’s “act in good faith towards them, then they [i.e. employees] reciprocate and return the favour” (Burney et al., 2009, 310). Specifically, when employers demonstrate extended concern for the well-being and career progression of employees, through investing resources in professional growth and development (i.e. training), employees
will be more likely to perform roles beyond their normal job requirements (i.e. greater citizenship behaviour) including assisting junior and other colleagues (Tsui et al., 1997). Bhattacharyya (2017) support this claim stating that “collegiality in organisation[s] was fostered with the emergence of the concept ‘invest in people’” (Bhattacharyya, 2017, 9).

Hence, input controls will facilitate greater collegiality and we hypothesise:

**Hypothesis 2a** The extent of use of input controls is positively associated with the extent of collegiality.

Behaviour controls involve the ongoing observation of employee behaviour including articulated operating procedures, close supervision, and behavioural performance appraisal and feedback (Snell, 1992). It may be argued that this top-down approach to management may be resented by employees who desire autonomy and freedom to act, as opposed to personal surveillance (Snell, 1992) and restrictions on their activities. Assuming such controls have a negative impact on employees, it is assumed that they would be less likely to engage in collegiality. Alternatively, such controls may be viewed in a favourable light, with the articulated operating procedures serving to provide clarity in respect to job expectations and how specific tasks should be completed (Snell, 1992), thereby alleviating work pressures (ten Brummelhuis et al., 2010). Su et al. (2015) here argue that by specifying and clarifying the nature of tasks for employees and through direct supervision, behaviour controls can contribute to the reduction of ambiguity and uncertainty and alleviate employees’ feelings of a lack of direction. As a result, employees are less likely to feel stressed about their work, and consequently are more likely to engage in collegial activities including helping others. At the same time, through encouraging organisations to focus on the achievement of organisational goals as opposed to individual goals, behaviour controls can be used to reinforce the essential attributes of collegiality, i.e. shared responsibility. Bhattacharyya (2017) here maintains that collegiality is more likely to thrive in organisations that emphasise the achievement of organisational goals. Finally, managers can utilise behavioural controls in a way that both highlight and reinforce the inherent characteristics of collegiality that they are trying to infuse i.e. conferring, collaborating, supporting the development of colleagues (Almost et al., 2015; Shrifian, 2011; Su & Baird, 2017). Hence, while there are some concerns that behavioural controls may have a negative effect on collegiality, the overwhelming opinions and evidence suggests a positive association. Accordingly, it is hypothesised:

**Hypothesis 2b** The extent of use of behaviour controls is positively associated with the extent of collegiality.

Output controls emphasise the achievement of desired outcomes, with employees held accountable for results, regardless of the means used to achieve the results (Snell, 1992). This study focuses on individual level results with emphasis placed on the extent to which performance evaluations focus on results, clear performance
targets are set, the targets are used as a benchmark for evaluations, and performance ratings and rewards are linked to the results achieved.

In an academic environment, there is evidence that this increased emphasis on accountability and performance has coincided with a decrease in the level of collegiality (Christopher, 2012; Coates et al., 2008). Specifically, the increased pressure placed on academic staff to achieve key performance indicators has resulted in a workforce that is more intent on pursuing their own exploits as opposed to helping others (Su & Baird, 2017). This premise is challenged somewhat by Cheng and Coyte (2014) who found that employees under the influence of an output-based performance measurement system were more likely to engage in extra-role behaviours, specifically knowledge sharing, when incentive schemes employed a subjective weighting scheme.

However, further support for the negative effect of output controls on collegiality is provided by Bhattacharyya (2017) who allude to the fact that the pursuit of output controls and the accountability for targets set deprives employees of the time required to interact and build trust between each other i.e. collegiality. In addition, as discussed earlier, when employees focus on their individual goals as opposed to organisational goals, they are less willing to engage with collective responsibility, which is one of the essential attributes of collegiality (Bhattacharyya, 2017). Accordingly, it is hypothesised:

**Hypothesis 2c** The extent of use of output controls is negatively associated with the extent of collegiality.

### 2.5 The association between creativity and collegiality with performance

With dramatic technological change, and an increasingly competitive and turbulent environment, creativity has become more important than ever for an organisation’s survival (Anderson et al., 2004; Shalley et al., 2004). Creativity is the key to developing competitive advantage in the era of the knowledge economy. Specifically, creative employees provide novel and useful ideas in regard to products, services, processes and procedures (Amabile, 1988; Anderson et al., 2004), thereby allowing firms to develop and sustain their competitive advantage (Garcia-Morales et al., 2007). Oldham (2002) argues that it is the use of creative ideas that enable organisations to adapt to changing market conditions and respond promptly to opportunities. Further, creative employees are more likely to engage in identifying problems and providing solutions to problems (Ford & Gioia, 2000). Similarly, Taggar (2002) maintain that creativity stimulates employees to explore new ways of conducting tasks and implementing changes in job procedures, which is expected to enhance work efficiency and productivity in the long run.

However, Grabner and Speckbacher (2016) posit that a high reliance on employee creativity may lead to dysfunctional behaviour. In a similar vein, Gino and Ariely (2012) found that greater creativity is associated with greater dishonesty as employees’ ability to justify their unethical behaviour increases. Such findings, however, cannot be interpreted to infer that creativity will undermine employees’ capability
to meet their job responsibilities and duties (i.e. job performance). Indeed, Gino and Ariely (2012) argue that creative employees are more likely to find loopholes to solve the challenging tasks they face. As a result, while we are aware that creativity may occasionally lead to dishonest behaviour, we still expect a positive association between creativity with both employee job and organisational performance. This expectation is reinforced by Von Nordenflycht (2007) who found a positive relationship between creativity and organisational performance. Accordingly, it is hypothesised:

**Hypothesis 3a** Creativity is positively associated with both employee job performance and organisational performance.

Collegiality encourages employees to share responsibility, trust and collaborate with each other (Bhattacharyya, 2017). Cipriano (2011) posits that in a collegial environment, people who are engaged in collaboration can deliver better performance compared to colleagues who work in isolation. Similarly, Shah (2011) argues that collaboration between employees can create a positive environment that improve employees’ work efficiency. Further, Farrell (2016) highlight that while organisations spend a significant amount of time dealing with employee conflict and resolving tense situations, collegiality is expected to enhance organisations’ productivity by enabling employees to express different views in a respectful and welcome atmosphere (Hudec, 2006). In addition, collegiality encourages a cooperative and sharing spirit between employees which in turn can not only support employees’ work, but also drive employees to work towards organisational goals (Farrell, 2016). While Su and Baird (2017) found a positive association between collegiality and research performance amongst academics little empirical evidence has been identified in business organisations. Based on the above discussion, we hypothesise that such a positive association is also expected in business organisations:

**Hypothesis 3b** Collegiality is positively associated with both employee job performance and organisational performance.

### 2.6 The mediating effect of creativity and collegiality on the association between controls and performance

Motivated by the proposition in the management accounting literature that MCSs affect employee behaviour which subsequently influences organisational outcomes (Hall, 2008; Merchant & Van der Stede, 2007) this study argues that the effect of controls, specifically input, behaviour and output controls, on both employee job performance and organisational performance, is enacted through employee creativity and collegiality. In line with the previous discussion, we argue that input controls will be positively associated with creativity with Jime´nez-Jime´nez and Sanz-Vallea (2008) suggesting that since employee creativity is a form of human capital, staffing plays an essential role in improving such creativity. Similarly, we hypothesise that behaviour controls will be positively associated with creativity.
Further, we expect that employee creativity, as a significant driver of organisational success in the era of knowledge-based business world (Zhou & George, 2003), will subsequently result in enhanced employee job performance and organisational performance.

We also maintain that all three types of controls will affect collegiality, which in turn will have a positive impact on employee job performance and organisational performance. Specifically, we argue that both input and behaviour controls will be positively associated with collegiality as input controls ensure that employees have the ability to not only perform their duties but help others, while behaviour controls encourage shared responsibility. However, we expect that output controls will be negatively associated with collegiality due to its emphasis on individualism rather than collectivism. The impact of the three types of controls on collegiality will subsequently effect performance, with the prediction that collegiality will enhance both employee job performance and organisational performance. Accordingly, the following hypotheses are developed:

**Hypothesis 4a** The extent of creativity mediates the association between input and behaviour controls with both employee job performance and organisational performance.

**Hypothesis 4b** The extent of collegiality mediates the association between input, behaviour and output controls with both employee job performance and organisational performance.

### 3 Method

#### 3.1 Data collection

An online survey questionnaire was sent out to 914 lower-level managers in Australian business organisations with 50 employees or more, as smaller organisations may not have formal controls in place. Lower-level managers are responsible for supervising front-line employees and communicating the fundamental issues of a business to the higher levels and were chosen as the target participants of the study as they were deemed to possess suitable knowledge of the study’s variables. First, as formal controls including input, behaviour and output controls are directly imposed on them they were considered to be the most appropriate respondent to assess such controls. Second, given that lower-level managers frequently communicate with higher levels of management in relation to the fundamental issues concerning their business, they were expected to have sufficient knowledge to assess both organisational performance in addition to their own performance. Finally, while most empirical studies examining creativity have focused on senior and middle level managers (e.g. Appuhami, 2017; Grabner, 2014; Moulang, 2015; Speklé et al., 2017), as

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4 N.B. only one lower-level manager was chosen from each organisation.
creativity can transpire at any job level (Zhou & George, 2003), this study contributes to the literature by assessing creativity at the lower-level of management. Similarly, lower-level managers also have the knowledge to assess the level of collegiality i.e. the extent to which employees trust, interact, support and assist each other at work.

In order to improve the response rate, Qualtrics, the world’s leading enterprise survey technology solution, was appointed to assist us in collecting the data. Potential participants were recruited by Qualtrics using traditional activity managed market research panels and were given 14 days to complete the online survey questionnaire. Those who participated in the study received an incentive based on their specific panellist profile and were offered the opportunity to receive a summary of the findings of the study. Incentives provided included cash, gift vouchers, online vouchers and donations based on individual respondents’ preferences. Of the 914 distributed questionnaires, 216 were received within two weeks, achieving a 23.6 percent response rate. However, 13 responses were eliminated due to poor data quality, leaving 203 responses for the final data analysis. The final sample included organisations that operate across various industries in the primary (1%), secondary (35%) and tertiary (64%) sectors. The respondents consisted of 22 account

| Table 1 Profile of respondents |
|-------------------------------|
| Organisation (N* = 156)       | Percentage (%) |
| Primary industry (2)          | 1              |
| Secondary industry (54)       | 35             |
| Tertiary industry (100)       | 64             |
| Lower level management (N = 203) |                |
| Account manager (22)          | 11             |
| Operational manager (73)     | 36             |
| Service manager (41)          | 20             |
| Sales manager (21)            | 10             |
| Commercial manager (60)       | 3              |
| Others (40)                   | 20             |
| Age (N = 203)                 |                |
| 20–29 (42)                    | 20             |
| 30–39 (72)                    | 36             |
| 40–49 (50)                    | 25             |
| 50 or over (39)               | 19             |

* The number of responses (N) varies due to the fact that not all survey items were completed by respondents.

5 Several reverse coded items were used throughout the survey questionnaire. Respondents who gave similar scores to completely opposite statements were considered to be poor quality responses and hence were removed from the final data analysis.
managers, 73 operational managers, 41 service managers, 21 sales managers, 60 commercial managers and 40 lower-level managers in other job titles (see Table 1).

3.2 Common method bias

While the survey method is subject to common method bias (CBM) both procedural and statistical strategies were implemented to minimise CMB in line with the recommendations provided by Jordan and Troth (2020). In regard to procedural strategies, first, an information coversheet was provided outlining the purpose of the study. Clear instructions were also provided in respect to each section of the questionnaire to ensure that respondents understood how to answer each question. Secondly, to improve the scale item clarity only two anchor labels ('Not at all' and 'To a great extent') were used on 5-point scales throughout the survey questionnaire. Finally, given that respondents were asked to assess all the variables included in the study, the questions in the survey were placed in a random order to minimize the likelihood of respondents being able to identify how their answers for each question were linked together and analysed.

In regard to statistical strategies, Harman’s (1967) single factor test was performed to test common method bias. The results show that the highest Eigenvalue value was less than 50 percent (11.73%) suggesting that common method bias was not considered to be a problem (Podsakoff et al., 2003). This is further confirmed with the Common Latent Factor (CLF) test which indicated that the difference in the standardised weights between the model with the CLF and the model without the CLF was less than 0.20 across all measurement items of each variable (Eichhorn, 2014).

3.3 Variable measurement

The survey items for the three types of controls, creativity, collegiality and both job and organisational performance were all scored on a five-point scale. Respondents were asked to indicate the extent to which they agree with a series of statements with anchors of “1 = Not at all” and “5 = To a great extent”.

Details regarding the measurement of each variable is outlined below. As recommended by Schumacker and Lomax (2004) the construct validity of each variable was assessed using Confirmatory Factor Analysis (CFA). Four main elements, namely the significance of the standardised factor loading, the standardised error and t-statistics for each item, and overall fit indices (i.e. CMIN/DF, GFI and AGFI) were examined. The Appendix provides the statistics of the measurement analysis for each variable.

3.3.1 Types of controls

In order to keep the survey questionnaire as concise as possible and increase the response rate we utilised a shorter version of Snell’s (1992) instrument developed by Su et al. (2013). Specifically, without compromising the accuracy and completeness...
of the instrument, the initial nine-item measure of behaviour controls was reduced to a six-item measure, while the initial 12-item measure of output controls was reduced to a six-item measure. Minor adjustments to the phrasing of the questions were also made so as to fit the context of this study.

Respondents were required to indicate the extent to which a series of statements reflected the work environment in their business unit. For input controls, a seven-item measure was used to assess the extent of emphasis placed on staff recruitment, training, and skill and career development. Item 1 ‘Employees must undergo a series of evaluations before they are hired’ was removed due to a low factor loading. The remaining six items loaded onto one dimension and the results of the CFA analysis show that the individual item loadings were all above the recommended cut-off point of 0.5 (Hair et al., 1998) and represented an overall good model fit (see Appendix).

A six-item measure was used to assess behaviour controls with the items focusing on the emphasis placed on employees’ compliance with staffing policies and procedures, regular monitoring of employees’ on-going behaviour and employees’ accountability for their actions. Item 6 ‘Subordinates assume responsibility for setting their own performance goals’ (reverse coded) was removed due to a low factor loading. The remaining five items loaded onto one dimension with all of the loadings above 0.5, and a good overall model fit (see Appendix).

Output controls was assessed using a six-item measure capturing the extent of emphasis placed on achieving target results and evaluating employee’s performance based on the results. All six items loaded onto one dimension and the CFA analysis reveals that the factor loadings for all of the items exceeded the cut-off point (0.5) and represented an overall good model fit (see Appendix).

3.3.2 Creativity

Creativity was measured using Moulang’s (2015) eight-item measure which was created based on Spreitzer et al. (1999) and Wang and Netemeyer (2004). Respondents were asked to indicate the extent to which they engaged in a number of creative activities i.e. the generation of ideas and/or employing new processes / methods. All eight items loaded onto one dimension and the CFA results indicate that all of the items exceeded the factor loading cut-off point of 0.5 and indicated an overall good model fit (see Appendix).

3.3.3 Collegiality

Su and Baird’s (2017) five-item measure was utilised to assess the level of collegiality. Respondents were asked to indicate the extent to which they trust and interact with each other at work, and their willingness to help each other. Item 5 ‘Staff in my organisation do not respect the professional competence of their colleagues’ (reverse

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6 The acceptable cut-off scores for CMIN/DF are close to or lower than 3 (Kline, 2005) and close to or higher than 0.90 for both GFI and AGF (Hooper et al., 2008; Hu and Bentler, 1999).
coded) was eliminated due to a low factor loading. The remaining four items loaded onto one dimension and the results of the CFA analysis indicate that all of the item loadings were above 0.5 and represented an overall good model fit (see Appendix).

### 3.3.4 Organisational performance

Organisational performance was measured using Baird et al.’s (2018) six-item instrument. Respondents were asked to assess both the financial and non-financial performance of their organisations. Factor analysis reveals that these six items loaded onto two dimensions, namely financial (items 1–3) and non-financial (items 4–6) performance. These two dimensions were subsequently used in the measurement model. The CFA results show that all of the items included in each dimension have factor loadings above 0.5 (see Appendix). While goodness of fit scores could not be calculated as there were only three items for each dimension, the Cronbach’s (1951) alpha scores reported in Table 2 indicated an acceptable level of reliability for both financial and non-financial performance dimensions.

### 3.3.5 Employee job performance

Employee job performance was measured using Groen et al.’s (2017) five-item measure which focuses on assessing the extent to which employees perform all essential duties and meet their job requirements. All five items loaded on one dimension and the factor loadings for all of the items were above 0.5 and represented an overall good model fit (see Appendix).

### 3.3.6 Control variables

Organisational size and respondents’ age were chosen as control variables as both variables play significant roles in affecting individual employees’ creativity and

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**Table 2** Results of Cronbach alpha, composite reliability and average variance extracted*

| Construct                  | Cronbach alpha scores | Composite reliability | AVE  |
|----------------------------|-----------------------|-----------------------|------|
| Input controls             | 0.795                 | 0.852                 | 0.491|
| Behaviour controls        | 0.824                 | 0.877                 | 0.588|
| Output controls           | 0.829                 | 0.874                 | 0.537|
| Creativity                | 0.893                 | 0.913                 | 0.568|
| Collegiality              | 0.857                 | 0.903                 | 0.700|
| Financial performance     | 0.863                 | 0.917                 | 0.786|
| Non-financial performance | 0.803                 | 0.884                 | 0.718|
| Job performance           | 0.874                 | 0.910                 | 0.671|

*The composite reliability for all the constructs is above the 0.7 threshold and the AVE for the constructs is above or near the 0.5 threshold
collegiality. The size of organisations was measured by the natural logarithm of the number of full-time employees.

4 Results

4.1 Measurement model

The results of the CFA analysis have assured the reliability and dimensionality of all of the multi-item constructs (see Appendix). In addition, Table 2 shows that the Cronbach’s (1951) alpha scores for all variables are above 0.7, demonstrating satisfactory reliability.

To evaluate the constructs’ convergent validity, the composite reliability and average variance extracted (AVE) scores were examined with Table 2 showing that the composite reliability for all of the constructs is above the 0.7 threshold (Werts et al., 1974) while the AVE for the constructs is above or near the 0.5 threshold (Chin, 1998). Discriminant validity was assessed by comparing the square roots of each construct’s AVE to the correlations with all other constructs. Table 3 reports the square roots of the AVEs in the diagonal and the correlation coefficients in the off-diagonal for all constructs. The square roots of the AVEs were all higher than the respective correlations between constructs, supporting acceptable discriminant validity (Chin, 1998).

Table 4 shows the summary statistics including the mean, standard deviation, and the minimum and maximum values for each variable. Respondents were aged from 24 to 65 and exhibited a moderate level of creativity (mean = 3.762) and collegiality (mean = 3.686). All three types of controls are used to a moderate level (mean scores for input = 3.860; behaviour = 3.885; output = 3.645) with both financial (mean = 3.622) and non-financial organisational performance (mean = 3.649) achieved to a moderate level. Employees’ job performance appears relatively high (mean = 4.087).
4.2 Structural model

Covariance Based SEM was used to examine the associations between the use of the three types of controls, the extent of employee creativity and collegiality, and both employee job performance and organisational performance. First, we ran an initial model which included all of the hypothesised paths and the paths between the two control variables with creativity and collegiality. The results of this initial model are reported in Table 5 Model A. Secondly, in line with Anderson and Gerbing (1988) all of the insignificant paths were removed (one by one, least significant first) until all of the remaining paths were statistically significant. The results are reported in Table 5 Model B with the three benchmark fit indices (CMIN/DF = 1.039; GFI = 0.985; AGFI = 0.954) indicating a good model fit.

Table 5 Model B and Fig. 2 reveal a positive association between behaviour controls and the extent of creativity (β = 0.267, p = 0.000) thereby supporting H1b. This finding is in line with Davila and Ditillo (2017) who suggest that controls that restrict employees’ creative space can actually serve to facilitate enhanced creativity. This is supported by Mundy’s (2010, 510) argument that the setting of limits and boundaries ‘prevent[s] employees from wasting organisation’s resources’ and ‘help[s] to direct activities to a meaningful end-point’. No significant associations were found between either output or input controls with creativity. The finding here in respect to output controls provides support for H1c. Hence, this result is not surprising and reinforces the notion that there is no relation between output controls and creativity, with the focus on such controls neither inhibiting or supporting creativity.

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7 Organisational performance is divided into financial and non-financial performance dimensions in line with the CFA results.

8 Paths with p-value higher than 0.05 are considered to be insignificant.
Surprisingly H1a is not supported. Such a finding suggests that while staff selection and training are encouraged to facilitate the ability and motivation of employees to be creative, this in itself may only serve to enhance employees’ creative capability, with organisations therefore required to be more proactive through using behaviour controls to enhance employees’ actual level of creativity.

Table 5 Results of the path analysis for the association between three types of controls with creativity and collegiality, and employee job performance and organisational performance

| Regression Path | Model A (full model) | Model B (trimmed model) |
|-----------------|----------------------|-------------------------|
|                 | Standardised beta   | P-value     | Standardised beta   | P-value     |
| Input controls creativity | 0.114 | 0.283 | – | – |
| Behaviour controls creativity | 0.215 | 0.051 | 0.267 | 0.000** |
| Output controls creativity | −0.052 | 0.528 | – | – |
| Input controls collegiality | 0.335 | 0.004** | 0.254 | 0.006** |
| Behaviour controls Collegiality | 0.333 | 0.006** | 0.241 | 0.009** |
| Output controls collegiality | −0.084 | 0.356 | – | – |
| Creativity employee job performance | 0.383 | 0.000** | 0.363 | 0.000** |
| Creativity Financial performance | 0.121 | 0.122 | – | – |
| Creativity non-financial performance | 0.159 | 0.040* | 0.142 | 0.019* |
| Collegiality employee job performance | 0.150 | 0.012* | 0.162 | 0.015* |
| Collegiality financial performance | 0.151 | 0.036* | 0.199 | 0.003** |
| Collegiality non-financial performance | 0.358 | 0.000** | 0.371 | 0.000** |
| Input controls financial performance | 0.175 | 0.150 | – | – |
| Input controls non-financial performance | 0.217 | 0.070 | – | – |
| Input controls Employee job performance | −0.062 | 0.540 | – | – |
| Behaviour controls Financial performance | −0.011 | 0.929 | – | – |
| Behaviour controls non-financial performance | −0.065 | 0.603 | – | – |
| Behaviour controls Employee job performance | 0.353 | 0.000** | 0.305 | 0.000** |
| Output controls financial performance | 0.235 | 0.012* | 0.287 | 0.000** |
| Output controls non-financial performance | 0.227 | 0.013* | 0.239 | 0.000** |
| Output controls employee job performance | −0.214 | 0.006** | −0.229 | 0.004** |
| Control variables | | | | |
| Age creativity | −0.001 | 0.739 | – | – |
| Age collegiality | 0.000 | 0.966 | – | – |
| Size creativity | 0.034 | 0.135 | – | – |
| Size collegiality | 0.006 | 0.803 | – | – |
| Goodness of fit statistics | | | | |
| CMIN/DF | 1.812 | 1.039 | |
| GFI | 0.976 | 0.985 | |
| AGFI | 0.911 | 0.954 | |

^ The results of the path analysis provide support for H1c, H2a, H2b, H3a and H3b
***, * Statistically significant at 0.01, 0.05 levels respectively
In addition, both input ($\beta=0.254, p=0.006$) and behaviour controls ($\beta=0.241, p=0.009$) were found to be positively associated with collegiality, providing support for H2a and H2b. However, no significant association was found between output controls and collegiality and therefore H2c, which predicted that output controls would have a negative impact on collegiality, is rejected. This allows us to reject the notion that greater emphasis on output controls will inhibit the level of collegiality within organisations. Rather, we conclude that the pursuit of target outcomes (i.e. output controls) and collegiality represent two unrelated objectives.

In respect to the associations between creativity and collegiality with performance, creativity was found to be positively associated with employee job performance ($\beta=0.363, p=0.000$) and non-financial performance ($\beta=0.142, p=0.019$), while collegiality was found to be positively associated with employee job performance ($\beta=0.162, p=0.015$) and both financial ($\beta=0.199, p=0.003$) and non-financial performance ($\beta=0.371, p=0.000$). These results provide support for H3a and H3b.

While output controls are not significantly associated with creativity and collegiality, they were found to be positively associated with both financial ($\beta=0.287, p=0.000$) and non-financial performance ($\beta=0.239, p=0.000$), and negatively associated with employee job performance ($\beta=0.229, p=0.004$). Furthermore, a direct positive association between behaviour controls and employee job performance ($\beta=0.305, p=0.000$) was identified.

The bootstrapping (5000 samples) with bias-corrected Confidence Intervals Method (MacKinnon et al., 2002) was used to test the mediating role of creativity and collegiality in the association between the use of input controls and behaviour controls, with both employee job performance and organisational performance. Table 6 Panel A indicates that the extent of creativity significantly mediates the...
The mediating effect of creativity and collegiality on the association between controls with organisational performance and employee job performance

Table 6

|                  | Non-financial performance | Employee job performance |
|------------------|----------------------------|--------------------------|
|                  | LB 95% CI  | UB 95% CI   | LB 95% CI   | UB 95% CI   |
| Behaviour control | 0.004      | 0.085       | 0.047       | 0.160       |
| Financial performance |    |             |             |             |
| UB 95% CI | 0.112       | 0.197       | 0.101       | 0.111       |
| Non-financial performance |    |             |             |             |
| Behaviour controls | 0.006      | 0.120       | 0.018       | 0.180       |
| Employee job performance |    |             |             |             |
| UB 95% CI | 0.112       | 0.197       | 0.101       | 0.111       |

Panel A. Bootstrapped regression analysis of the mediating effect of creativity on the association between the behaviour controls with non-financial organisational performance and employee job performance *

*Input and output controls were excluded from the analysis due to the lack of a significant association between them with creativity. Financial performance was excluded from the analysis due to the lack of a significant association between creativity and financial performance.

**The results of the bootstrapped regression analysis suggest that creativity mediates the association between behaviour controls with non-financial performance and employee job performance as the confidence intervals do not cross zero.

Panel B. Bootstrapped regression analysis of the mediating effect of collegiality on the association between input and behaviour controls with both financial and non-financial organisational performance and employee job performance *

*Output controls were excluded from the analysis due to the lack of a significant association between output controls and collegiality.

**Collegiality mediates the association between input controls with both financial and non-financial performance, and employee job performance.

***Collegiality mediates the association between behaviour controls with both financial and non-financial performance, and employee job performance.

The association between behaviour controls and non-financial performance as the confidence interval [lower bound (LB) of 0.004 and upper bound (UB) of 0.085] does not cross zero. Hence, given there is no significant direct association between behaviour controls and non-financial performance, it is concluded that creativity fully mediates the association between behaviour controls and non-financial organisational performance. Table 6 Panel A also suggests that creativity mediates the association between behaviour controls and employee job performance (LB of 0.047 and UB of 0.160), although such a mediating effect is partial, since behaviour controls exhibit a direct association with employee job performance. Overall, H4a is partially supported.

Table 6 Panel B shows that collegiality significantly mediates the association between input controls with both financial (LB of 0.020 and UB of 0.112) and non-financial performance (LB of 0.022 and UB of 0.197), and employee job performance (LB of 0.013 and UB of 0.101). This effect is considered to involve full mediation given that input controls are not directly associated with both financial
and non-financial performance and employee job performance. Similarly, collegiality was found to significantly mediate the association between behaviour controls with both financial (LB of 0.006 and UB of 0.120) and non-financial performance (LB of 0.018 and UB of 0.180), and employee job performance (LB of 0.007 and UB of 0.111). However, while the effect of collegiality on the association between behaviour controls with both financial and non-financial performance involves full mediation, collegiality only partially mediates the association between behaviour controls and employee job performance due to the significant direct association between behaviour controls and employee job performance. Overall, H4b is partially supported.

5 Conclusion

This study aimed to improve our understanding of the association between different types of controls and performance by examining the mediating role of two aspects of employee behaviour, creativity and collegiality. Specifically, a theoretical model was developed to examine how Snell’s (1992) three types of controls affect creativity and collegiality, and in turn how these employee behaviour factors influence individual employee job performance and organisational performance. SEM was applied to test the model with data collected from a survey questionnaire of 203 lower-level managers in Australian business organisations.

The study contributes to the literature in a number of ways. First, the study contributes to the MCS literature by providing an empirical insight the mechanism through which Snell’s (1992) three types of controls (i.e. input, behaviour and output controls) affect individual employee job performance and organisational performance. Specifically, we find that the two types of employee related behaviour (creativity and collegiality) play significant roles in mediating the associations between input and behaviour controls with both individual employee job performance and organisational performance. Such findings confirm the theoretical proposition that MCSs influence employee behaviour, which subsequently affect organisational outcomes (Hall, 2008; Merchant & Van der Stede, 2007).

Secondly, while a limited number of studies have investigated the association between controls and employee creativity, evidence concerning the subsequent impact of creativity on individual job performance and/or organisational performance is sparse. Hence, the findings in respect to the positive effect of creativity on employee job performance and non-financial performance contributes to the employee related behaviour literature through highlighting the important antecedent role of employee creativity in enhancing performance.

Thirdly, this study is the first study to empirically examine the role of collegiality in business organisations. Hence, these results also contribute to the employee related behaviour literature by highlighting the importance of collegiality in business organisations, in particular its significant role in enhancing employee job performance and organisational performance, and the role of input and behaviour controls in facilitating collegiality.
The results suggest a number of significant findings which have important implications for practice. Overall, the findings provide practitioners with an insight into how the use of different types of controls can enhance specific aspects of performance i.e. employee job performance, and financial and non-financial performance via creativity and collegiality. In regard to creativity, while behaviour controls can directly enhance employee job performance, such an effect is also enacted through employee creativity. In addition, while behaviour controls can affect employee job performance directly, the relationship between behaviour controls and organisational performance, particularly non-financial performance, cannot be enacted without the mediating role of creativity. The strong link between creativity and non-financial performance is plausible as creative employees are more willing to experiment with new concepts and ideas, and search for potential innovation and improvements in the process of producing products/services, thereby enhancing organisations’ non-financial performance in areas such as higher quality products/services and higher customer retention rate.

Accordingly, for organisations which rely on behaviour controls to improve their organisational performance, it is crucial that they understand it is not behaviour controls themselves that enhance organisational performance, but rather their positive impact on employee creativity which in turn improves organisational performance, particularly non-financial performance. In addition, creativity partially mediates the link from behaviour controls to employee job performance. Hence, organisations should endeavour to introduce initiatives that can enhance employee creativity, such as promoting experimentation, supporting ‘failures’ that result from exploring new ideas, and searching for new ways to solve problems. Organisations may also consider organising brainstorming sessions on a regular basis where employees are encouraged to generate and evaluate multiple alternatives for novel problems. Further, as prior literature has emphasised the importance of teams in enhancing creativity (e.g. Chen et al., 2012; Klein & Speckbacher, 2020), future studies could investigate the effect of the characteristics of teams/team leaders on employee creativity. For example, Klein and Speckbacher (2020) found that team leaders’ leadership style plays an important role in making team creativity more effective (i.e. avoid “art-for-art’s-sake” creativity) which will subsequently enhance team performance. Future studies could also consider examining the effect of the three types of controls (i.e. input, behaviour and output) on the associations between both individual and team creativity and team performance.

Collegiality was found to mediate the association between behaviour controls with both financial and non-financial performance as well as employee job performance. Further, the results highlight that the use of input controls themselves do not directly enhance either employee job performance or organisational performance. Rather, a positive link from input controls to performance must be enacted through collegiality. The observed relationships suggest that collegiality presents a means by which the impact of input controls can be translated into employee job performance, and both financial and non-financial performance. Such results serve to highlight the importance for business organisations of valuing and enhancing collegiality. Organisations should therefore focus on activities that can contribute to creating a sense of belonging and togetherness amongst employees. Specifically, to encourage
and promote collegiality organisations may consider introducing a social commit-
tee which organises formal team building events and/or informal gatherings over
a cup of coffee or some interactive group games over lunch breaks. In addition, it
may be of pragmatic benefit for organisations to provide relevant training and work-
shops which guide employees on how to deal with disagreements and conflicts in
a respectful manner, thereby creating a collegial environment where employee feel
comfortable to openly discuss conflicts and concerns in a professional manner.

Interestingly, output controls were found to be directly linked to employee job
performance (albeit negatively) and organisational performance (both financial and
non-financial) without any significant associations with creativity and collegiality.
While output controls were found to enhance both financial and non-financial per-
formance, they were found to be negatively associated with employee job perfor-
mance. This finding, while surprising, may be explained using expectancy theory
which proclaims that the effectiveness of an incentive scheme in motivating employ-
ees is determined by the employees’ perception about whether the target outcomes
are achievable or not (Vroom, 1964). In particular, it is possible that since organisa-
tions tend to set very high performance expectations in order to maximise organi-
sational performance, this may undermine employees’ confidence as to the extent
to which they perceive that they have met their job requirements and expectations,
which is the measure of employee job performance in this study. Accordingly, it is
suggested that organisations need to be cautious in regard to the difficulty of the
specific target outcomes utilised in the process of implementing output controls.
Specifically, the target outcomes should provide sufficient challenge and stretch but
still be considered to be achievable by employees. It is worth noting here that while
we found a negative association between output controls and employee job perfor-
ance, Pfister and Lukka (2019) examined the interactions between output controls,
input controls and cultural controls and found a positive association between the
joint use of these controls and employee productivity. Accordingly, future research
could further investigate the association between output controls and employee job
performance by considering the interactions with other types of controls.

While this study makes significant contribution to both the literature and practice
it has a number of limitations. First, it is subject to the usual limitations associated
with the use of the survey method, including only assessing associations between
independent and dependent variables rather than causal relationships and common
method bias with only one lower-level manager assessing each organisation’s perfor-
mance. Hence, future research could employ other methods such as an experiment
or conduct a longitudinal study to provide stronger empirical evidence about the
causal relationships between controls, creativity and collegiality, and performance.
In particular, given the unexpected negative association between output controls and
employee job performance identified in this study, future studies could conduct in-
depth interviews to provide a more comprehensive insight into this relationship.
Secondly, while the study controlled for the potential effect of organisational size and
employee age on creativity and collegiality, it did not consider other variables such
as the types of performance evaluation (e.g., subjective vs objective performance
evaluation) used in an organisation, organisational strategies and the incentive link
to creative performance. Future studies may take such factors into consideration in
examining the association between controls with creativity and collegiality. Future studies could also focus on the approach to using each type of control and explore how this affects the associations between different types of controls with creativity and collegiality. Thirdly, the measure used to assess employee job performance in this study relies on employees’ perception as to whether they have met all job requirements. Future research could use measures that capture alternative aspects of employee job performance such as employee work productivity. Fourthly, given that Snell’s (1992) control typology only focuses on formal controls, future research could adopt other control typologies (e.g. Merchant & Van der Stede, 2017) which include informal controls. Finally, future research could also examine how collegiality and creativity mediate the effect of controls on employee work-related attitudes such as job satisfaction and job-related stress.

Appendix

CFA Results

Input controls

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| Employees receive substantial training before they assume new responsibilities (item 2) | 0.532    | –                  | –       |
| New employees undergo orientation regarding organisational activities (item 3) | 0.643    | 0.189              | 6.070   |
| Our business unit has gone to great lengths to establish staffing policies and procedures (item 4) | 0.667    | 0.202              | 6.183   |
| Employees are expected to adhere to established staffing policies and procedures (item 5) | 0.697    | 0.198              | 6.308   |
| Employees are given ample opportunity to broaden their range of talents (item 6) | 0.517    | 0.175              | 6.261   |
| Our business unit provides on-going training and skill development to employees (item 7) | 0.628    | 0.200              | 5.968   |

Goodness of fit statistics

|                        |          |
|------------------------|----------|
| CMIN/DF                | 1.499    |
| GFI                    | 0.982    |
| AGFI                   | 0.953    |

9 These are the retained items after confirmatory factor analysis. The first item of each scale has no t-value since it has a fixed parameter in AMOS.
### Behaviour controls

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|---------------------|---------|
| Employee performance is evaluated based on their on-going behaviour (item 1) | 0.603    | –                   | –       |
| Employees are held accountable for their actions, regardless of results (item 2) | 0.660    | 0.132               | 8.108   |
| Employees are monitored to ensure that they are complying with staffing policies and procedures (item 3) | 0.783    | 0.163               | 7.798   |
| Supervisors regularly monitor the actions undertaken by employees (item 4) | 0.779    | 0.153               | 7.782   |
| Employees are accountable for areas of responsibilities that are defined by top managers (item 5) | 0.603    | 0.139               | 6.667   |

**Goodness of fit statistics**

|                           |          |
|---------------------------|----------|
| CMIN/DF                   | 2.178    |
| GFI                       | 0.984    |
| AGFI                      | 0.940    |

### Output controls

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|---------------------|---------|
| Performance evaluations place emphasis on results (item 1)          | 0.662    | –                   | –       |
| There are clear and planned performance targets set for employees (item 2) | 0.772    | 0.165               | 7.883   |
| Pre-established targets are used as a benchmark for evaluations (item 3) | 0.799    | 0.170               | 8.025   |
| Regardless of what employees are like personally, their performance is judged by results achieved (item 4) | 0.572    | 0.124               | 7.389   |
| The rewards employees receive are linked to results (item 5)         | 0.603    | 0.185               | 6.798   |
| Employees who do not reach objectives receive a low performance rating (item 6) | 0.551    | 0.151               | 6.337   |

**Goodness of fit statistics**

|                           |          |
|---------------------------|----------|
| CMIN/DF                   | 1.143    |
| GFI                       | 0.989    |
| AGFI                      | 0.961    |
Creativity

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| I regularly come up with creative ideas (item 1)                     | 0.801    | –                  | –       |
| I regularly experiment with new concepts and ideas (item 2)          | 0.694    | 0.089              | 10.380  |
| I regularly carry out tasks in ways that are resourceful (item 3)    | 0.621    | 0.078              | 8.758   |
| I often engage in problem solving in clever and creative ways (item 4)| 0.685    | 0.081              | 10.138  |
| I often search for innovations and potential improvements within my division/department (item 5) | 0.766    | 0.082              | 11.579  |
| I often generate and evaluate multiple alternatives for novel problems within your division/department (item 6) | 0.765    | 0.078              | 11.609  |
| I often generate fresh perspectives on old problems (item 7)         | 0.692    | 0.081              | 9.969   |
| I often improvise methods of solving a problem when an answer is not apparent (item 8) | 0.691    | 0.075              | 10.222  |

Goodness of fit statistics

- CMIN/DF: 1.128
- GFI: 0.979
- AGFI: 0.950

Collegiality

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| There is a feeling of trust among staff members (item 1)             | 0.810    | –                  | –       |
| Professional interactions among colleagues are cooperative and supportive (item 2) | 0.784    | 0.073              | 11.445  |
| There is a feeling of confidence among staff members (item 3)        | 0.821    | 0.078              | 11.948  |
| I can count on most of my colleagues to help me out anywhere, anytime even though it may not be part of their official assignment (item 4) | 0.683    | 0.071              | 9.806   |

Goodness of fit statistics

- CMIN/DF: 3.352* (While the CMIN/DF value is slightly above the recommended threshold of 3 (Ullman, 2001), researchers have considered models with CMIN/DF values as high as 5 to be a good fit (Schumacker & Lomax, 2004))
- GFI: 0.983
- AGFI: 0.920
## Employee job performance

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| I always perform all essential duties (item 1)                      | 0.847    | –                  | –       |
| I always fulfill all responsibilities required by my job (item 2)   | 0.847    | 0.069              | 14.291  |
| I always meet all formal performance requirements of the job (item 3)| 0.779    | 0.069              | 12.712  |
| I always complete all duties specified in my job description (item 4)| 0.811    | 0.070              | 13.447  |
| I never neglect aspects of the job that I am obligated to perform (item 5) | 0.538 | 0.090 | 7.888 |

**Goodness of fit statistics**

- CMIN/DF: 1.047
- GFI: 0.990
- AGFI: 0.970

## Financial performance

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| Profit goals have been achieved (item 1)                            | 0.824    | –                  | –       |
| Sales goals have been achieved (item 2)                             | 0.872    | 0.092              | 12.444  |
| Return on investment goals have been achieved (item 3)              | 0.777    | 0.089              | 11.661  |

**Goodness of fit statistics**

Not available as only three items

## Non-financial performance

| Items                                                                 | Loadings | Standardised error | T-value |
|----------------------------------------------------------------------|----------|--------------------|---------|
| Our product(s) are of a higher quality than that of our competitors (item 4) | 0.710    | –                  | –       |
| We have a higher customer retention rate than our competitors (item 5) | 0.911    | 0.150              | 8.731   |
| We have a lower employee turnover rate than our competitors (item 6)  | 0.670    | 0.116              | 8.708   |

**Goodness of fit statistics**

Not available as only three items
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