Student Perception of Social Loafing in University Teamwork

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COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, and has been cited and referenced.

Signature: Signed by candidate Date: 7th February 2019

Abstract

This study investigated perceptions of social loafing in undergraduate student teams at a South African university. Student participants, randomly assigned to teams, received coursework instruction about team dynamics (including social loafing) and worked together for 12 weeks on a team assignment that was graded at the end of the semester. Students (*n* = 243) wrote individual reflections on the reasons for social loafing in student teams. Some (*n* = 24) also participated in an experiential social loafing exercise. These two sources of qualitative data were used in the development of a survey questionnaire, which was completed by 229 students. Fifty-four percent of the student participants (*n* = 229) perceived social loafing to have occurred in their teams. Four components of perceived social loafing behaviour were identified using factor analysis: *unavailability*, *poor work quality*, *tech loafing* and *discussion non-contribution. Loafer apathy* (a general lack of care or interest) predicted significant variance in each of the four loafing behaviours and *social compensation*. Team performance (assignment grades) was not related to the perceived presence social loafing in a team. Rather than reducing effort in response to perceived social loafing (the *sucker effect*), a social compensation effect occurred in the perceived presence of *poor work quality*. Effective leadership moderated the relationship between loafer apathy and tech loafing as well as loafer apathy and social compensation. Practical implications and recommendations for future research are presented.

Keywords: social loafing, social compensation, sucker effect, student teams, team performance

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Note on format. This paper follows the format prescribed by the Department of Organisational Psychology at the University of Cape Town and the American Psychological Association.

Student Perception of Social Loafing in University Teamwork

Universities across the world are using team projects and assignments as a component within their coursework (Hall & Buzwell, 2013; Popov et al., 2012). The popularity of student-centred, experiential learning has risen in recent decades, veering away from rote-learning towards student participation (Hall & Buzwell, 2013). Educators view student-led team projects as both a tool that can develop desirable soft skills and enable students to work on larger, more challenging assignments (McCorkle et al., 1999). In spite of its proposed benefits, student-led teamwork is often negatively viewed by students. Members that contribute less to a team's collective effort than what they should is the most common challenge students cite when participating in teamwork (Dommeyer, 2007; Hall & Buzwell, 2013; Popov et al., 2012). This is referred to as social loafing.

The majority of the academic literature defines social loafing as the reduction of individual effort when working collectively as opposed to individually of coactively (George, 1992; Karau & Williams, 1993; Liden, Wayne, Jaworski, & Bennett, 2004; Simms & Nichols, 2014). Much of the research investigating social loafing has utilised an experimental design (Harkins & Petty, 1982; Karau & Williams, 1997; Kerr, 1983; Kerr & Bruun, 1983; Steiner, 1972). In more recent years, field research has become more prevalent in an effort to explore the occurrence of social loafing in real-world group settings and the numerous influential factors that are present (Aggarwal & O'Brien, 2008; Boren & Morales, 2018; Jassawalla, Malshe, & Sashittal, 2008; Price, Harrison, & Gavin, 2006). Despite this shift, the conceptualisation of social loafing has largely remained unchanged.

The behaviours that individuals may attribute to social loafing have not been fully explored. Rather research has focused on investigating the causes and contributing factors to social loafing within workplace groups (George, 1992; Liden et al., 2004). Even with the common use of student sample, very few studies have considered the student perspective of social loafing (Jassawalla et al., 2008; Simms & Nichols, 2014) or examined the incidence of social loafing in higher education, student-led group assignments (Dommeyer, 2012). Conversely, results are located in the inferences that can be made about workplace groups from student samples (Simms & Nichols, 2014). This has limited the investigation of social loafing in a university context, where teamwork is often used but little is known about how students identify social loafing, how they respond to social loafing and why student social loafing may occur (Jassawalla, Sashittal, & Malshe, 2009). To address this, the primary

purpose of the present research is to explore the student perspective. To do this it intends to focus on social loafing behaviour, antecedents to these behaviours and outcomes of social loafing within a student context.

The paucity of research concerning the student perspective of social loafing is unfair to students who are required to participate in teamwork to fulfil the requirements of their degree, often for a collective grade. Social loafing may undermine students learning experience, disposition towards teamwork in the future and overall university average (Kagan, 1995). The outcomes of social loafing would logically entail reduced team performance and therefore lower team grades. This may be compounded if students respond to social loafing by further reducing their effort, referred to as the *sucker effect* (Kerr, 1983). In contrast, grades may not decline if student's in teams respond to loafing by increasing their effort, referred to as *social compensation* (Williams & Karau, 1991) The present study will examine both the sucker effect and social compensation in an effort to better understand the consequences of social loafing and how these responses influence team performance.

The concern of social loafing is of even greater importance within a culturally multifaceted South Africa. Not evident in other research, teams in this context are typically comprised of students from diverse backgrounds, and this is even more common if teams are randomly allocated. This may add additional challenges to the work they undertake (Popov et al., 2012). These teams are formed within a university context of protest and transformation, a community that is tackling the legacy of apartheid (Cornell & Kessi, 2017; Shefer, Strebel, Ngabaza, & Clowes, 2018). Student social loafing has not been quantitatively examined within a South African context, yet student team assignments are used as a tool to facilitate learning and development in higher education institutions (Pieterse & Thompson, 2010). The present study will examine the student perspective of social loafing within an undergraduate business course, using a diverse sample, to extend the knowledge about social loafing within a South African context.

The present research attempts to address the following research questions: What are the perceived social loafing behaviours identified by students within a South African university? What are the antecedents to these behaviours? How do students respond to perceived social loafing? Does perceived social loafing have a negative influence on team performance?

Literature Review

The purpose of this chapter is to examine the social loafing literature. After the method of searching for the literature has been explained, the chapter will first examine and defined social loafing, the popular group dynamic and structural conditions that are known to increase the occurrence of social loafing. It will then consider social loafing in student teams, its antecedents, consequences and outcomes. Within this, the strengths, deficiencies and noteworthy areas for investigation that emerge from the literature will serve as the basis for the hypotheses proposed.

Method of Searching for Literature

A literature search was initially conducted on Primo, a search engine provided by the University of Cape Town (UCT) that searches UCT libraries collections. The search was initiated during March 2018. Social loafing in higher education was searched for using the terms "Student social loafing", "Social loafing in university", "Social loafing in college", "Social loafing and student groups" and "Social loafing and academia" "Social loafing", "Social loafing literature review" and "Social loafing meta-analysis". The terms "free-riding" and "slacking" were also entered using multiple combinations. The same search terms were used within individual databases to ensure a thorough search was conducted. These databases were: EBSCOhost, PsycARTICLES, Sabinet, Jstor, Science Direct and Emerald. Secondary searches were conducted each month until December 2018 to remain abreast of new literature. The reference lists of core articles were also utilised to find relevant and reputable journal articles.

Early Social Loafing Research

The first formal- unpublished- study documenting the phenomenon of social loafing compared the level of effort expended by participants pulling on a rope (Kravitz & Martin, 1986). At the time it was labelled "The Ringelmann Effect", named for the experimenter, Max Ringelmann, a French agricultural engineer (as cited in Kravitz & Martin, 1986). He found that people pulling on rope alone expended more individual effort than within a group. Steiner (1972) speculated that this decrease in performance was attributed to either (a) an individual's reduced motivation or (b) lower coordination. While Steiner favoured the second explanation for its simplicity, Ingham, Levinger, Graves and Peckham (1974) later replicated Ringelmann's findings. They used pseudo-groups, where participants were led to believe they were pulling on the rope in a group, but in reality, were pulling alone. This ruled out poor coordination as a reason for reduced effort and found that just the idea that an individual was

working within a group resulted in a decrease in effort. Ingham et al. (1974) also demonstrated that individual effort within a group declined in a curvilinear fashion. The phenomenon was branded “Social Loafing” by Latane et al. (1979), who used a hand clapping experiment to replicate Ringelmann’s findings. After this, social loafing research evolved beyond physical tasks, to include cognitive tasks, evaluative tasks and perceptual tasks (Karau & Williams, 1993).

An array of research has since considered the factors that influence social loafing, which vary from group dynamic to structural conditions (Simms & Nichols, 2014; Zhu & Wang, 2018). With so many variables of interest, the social loafing literature is varied and broad. In light of this, it is necessary to define social loafing for the present study and collect the noteworthy variables that may influence the social loafing behaviour of students for the present study.

Definition of Terms

Social Loafing. The literature typically defines social loafing as a “reduction in motivation and effort when individuals work collectively compared with when they work individually or coactively” (Karau & Williams, 1993, p. 681). Just as this definition evolved from the original conceptualisation of social loafing as an equal reduction of individual effort when working collectively (Kravitz & Martin, 1986), the term social loafing is still evolving. In practice student social loafing may be more nuanced than a failure by one team member to contribute their share of the work (Jassawalla et al., 2009).

The terms social loafing, free-riding and slacking are often confused and confounded in the literature. Free-riding and slacking-off (also referred to as shirking) emphasise different features of the same phenomenon: effort reduction (Zhu & Wang, 2018). Slacking-off focuses on the element of non-contribution and avoidance behaviour (Aggarwal & O’Brien, 2008). Free-riding refers to an individual who gains benefits from their membership in a team that are disproportionately larger than their contribution to that team (Albanese & van Fleet, 1985; Comer, 1995). In this respect, they profit from other members without fulfilling their obligations, as rewards are distributed equally among members regardless of input. The terms free-riding and social loafing are used interchangeably in the free-riding literature (Abernethy & Lett, 2005; Levin, 2003; Maiden & Perry, 2011; Swaray, 2012). The social loafing literature considers free-riding a group dynamic that may lead to social loafing. This dynamic

was labelled the *dispensability of effort* before the term free-riding grew in popularity (Karau & Williams, 1993; Kerr, 1983).

Similar to previous work examining students in a field setting, for the purposes of this study social loafing will be viewed as a member's failure to contribute their share or portion to the team's effort as perceived by team members (Aggarwal & O'Brien, 2008; Jassawalla et al., 2009). Free-riding, slacking and shirking will be considered as components of social loafing (Zhu & Wang, 2018).

Perceived Social Loafing. Social loafing is a form of actual reduced behaviour, whereas perceived social loafing is the assessment that members are "contributing less than they could to the group" (Mulvey & Klein, 1998, p. 63). Zhu and Wang (2018) raised concern over the lack of specification regarding how effort reduction is recognised as social loafing. Social loafing and perceived social loafing may often covary, yet social loafing can take place even if others in the group do not perceive that it is occurring (Mulvey & Klein, 1998). Certain behaviours may be misidentified as social loafing. For example, students who struggle with a task and expend hours of time and effort, but still contribute less output, may be incorrectly identified as a social loafer (Pabico, Hermocilla, Galang, & De Sagun, 2015). If perception and actual behaviour are to mirror one another, observation and correct interpretation of team member behaviour would need to take place (Mulvey & Klein, 1998). If the behaviour of a member is not perceived as social loafing, negative team consequences may not take place (Mulvey & Klein, 1998) or teams may be unable to compensate for the unidentified reduction of effort. Regardless of whether perceived and actual social loafing align, team members will respond based on the behaviours they perceive as social loafing (Jassawalla et al., 2008; Mulvey & Klein, 1998; Pabico et al., 2015; Zhu & Wang, 2018).

Field research is largely concerned with perceived social loafing. Frequently, perceived social loafing is measured using self-reports from team members (Aggarwal & O'Brien, 2008; Jassawalla et al., 2009; Lam, 2015; Mulvey & Klein, 1998; Price et al., 2006), supervisor reports (Murphy, Wayne, Liden, & Erdogan, 2003) or more than one source to measure perceived social loafing (George, 1992; Liden et al., 2004). A measure of one's own social loafing tendencies are also commonly included (Pabico et al., 2015) or only ones own social loafing tendencies are measured (Schippers, 2014). George (1992) signalled the need for field research that investigated social loafing. More recently, this call seems to have found momentum, as social loafing research has veered away from an experimental design towards

the measurement of naturally occurring teams. The present research will continue this line of inquiry to understand the perceptions of students within a naturally occurring context.

Teamwork. Teamwork is differentiated from group work within the present study. Teams are comprised of members who have complementary skills, self-govern, work towards a common goal or purpose and hold one another mutually accountable (Greenberg, 2011). Teams are considered a type of group. In the literature review that follows, group and team are not used interchangeably. Rather, use of the term team or group is determined by what the research under consideration has used. If the research has not specified the condition, the term group will be used.

Group Dynamics

The literature has investigated several dynamics that promote individual member reduction of effort towards a collective task.

The potential for evaluation. The role of evaluation is interlinked with identifiability of an individual's contribution to a collective effort. Karau and Williams (1993) proposed that the potential for evaluation is a distinctive feature that motivates individuals to contribute or avoid contribution. Reduced identifiability of individual effort and the lack of evaluation of individual effort, may generate feelings of reduced responsibility for the group performance, which then causes a reduction in effort and contribution from the individual (Latane et al., 1979).

George (1992) highlighted the importance of examining this explanation within a field study, as the notion of identifiability in laboratory settings is dichotomous; participants are told whether their work is identifiable or not. This is problematic as perceived identifiability exists on a spectrum in real life group situations. George (1992) tested perceived task visibility (individual perception of identifiability) and found that when it was high, social loafing was low. These findings suggest that when individuals think their effort is being scrutinised, they will be less inclined to social loaf.

Dispensability of effort. A second explanation for social loafing concerns an individual's perception of their input to the group task. If they do not consider their input to be essential for the fulfilment of a task, they may regard themselves as dispensable and reduce their effort. This has been shown to occur even when group members inputs are identifiable to themselves, other group members and experimenters (Kerr & Bruun, 1983). Similarly, if one individual in the group exceeds their required contribution in an effort to

achieve highly, others in the group may perceive that their effort is not required, leading to social loafing (Hall & Buzwell, 2013). Dispensability of effort is intertwined with the notion that other group members will compensate for one or more members lower effort and contribution, negating the consequences on performance.

Matching of effort. The likelihood of an individual loafing may increase if they perceive or expect others to withhold effort. This explanation is referred to as the sucker effect and explains social loafing as an equalisation mechanism, where members wish to avoid being taken advantage of by fellow group members (Comer, 1995). Comer (1995) referred to this as *retributive loafing*. In extreme cases, individuals would rather fail an assignment than being taken advantage of by their partner (Kerr, 1983). Jackson and Harkins (1985) found that this matching process took place regardless of whether the group members' inputs were identifiable or not. Effort reduction may also occur if an individual's sense of influence is reduced. If one perceives that the remaining group members will fail to fulfil their task as a result of an individual's non-contribution, other members may conclude that their efforts are not worthwhile. Comer (1995) refers to this as *disheartened loafing.*

Last, it is important to note that anticipated or perceived social loafing must take place for the *sucker effect* to occur. As such, the sucker effect is also considered a consequence of anticipated or perceived social loafing and may negatively interact with group performance (Mulvey & Klein, 1998). This will be expanded upon at a later point in the chapter, which examines the consequences of student social loafing. Table 1 summarises the group dynamic explanations of social loafing.

Table 1

***S**ummary of the Group Dynamic Explanations of Social Loafing*

Explanation	Summary
Dispensability of Effort	If an individual views their contribution as non-essential, they may reduce their effort (Kerr, 1983).
Matching of Effort	Referred to as the sucker effect, if a group member perceives or expects another to contribute less, they lower their own input as an equalisation mechanism (Jackson & Harkins, 1985).
Identifiability	Reduced identifiability of individual effort, or the lack of evaluation of individual effort, leads to feelings of reduced responsibility for the group performance, which may cause a reduction in effort and contribution from the individual (Latane et al., 1979)

It was not until Karau and Williams (1993) that these findings and theoretical approaches to social loafing research were synthesised and analysed within a meta-analysis. Their analysis resulted in the creation of the Collective Effort Model. It adapts expectancy-value models of motivation to group situations, and takes elements from group dynamic accounts, to explain the key attributes and outcomes of motivation in a collective setting. It asserts that people are only willing to put effort into a collective task if this effort is instrumental in achieving valued outcomes for the individual. This places emphasis on an individual's ability to reason. It positions social loafing as a conscious behaviour, where the individual chooses to loaf as they do not perceive their input as being instrumental at achieving group outcomes, they see their contribution as dispensable or they do not value the outcomes to the extent that they are willing to contribute effort (Zhu & Wang, 2018). While Karau and Williams (1993) meta-analysis is widely cited, the Collective Effort Model has not been overly popular or extensively referenced within the research that followed its creation

Structure of the Group Work

General and student social loafing research have given a large amount of focus to the group set-up factors that influence social loafing (Lam, 2015). Group size, the method of group formation and peer evaluation are concentration points within the literature. Other factors of interest relate to duration of group work and the knowledge, skills and abilities of the social loafer.

Group Size. Social loafing research has been grounded in an examination of group size and motivation reduction, where performance reduced as group size increased (Ingham et al., 1974; Steiner, 1972). Group size is often examined as a structural antecedent of social loafing in field and experimental research (Aggarwal & O'Brien, 2008; Harkins & Petty, 1982; Kerr, 1983; Liden et al., 2004). This research finds a positive relationship between group size and the prevalence of social loafing.

Group formation. Student groups form in one of three ways (1) random assignment, (2) self-selection or (3) purposeful assignment (Decker, 1995). Lam (2015) noted that very little research has focused on group formation and social loafing. They describe that the most frequently used method of group formation is random assignment and self-selection. In South Africa, group formation may influence the demographic diversity of groups. Schrieff, Tredoux, Finchilescu and Dixon (2010) conducted longitudinal research of student seating patterns in University of Cape Town dining halls and found that student will sit with racially

similar peers. It is plausible that if given the opportunity to select into teams, South African students will self-select into racially homogenous teams whereas random assignment may increase team diversity. Swaray (2012) found that self-selection helped reduce free-riding. When investigating social loafing, both Aggarwal and O'Brien (2008) and Lam (2015) found no differences in incidents of social loafing between teams that were self-selected or randomly assigned.

Peer evaluation. Student groups within the context of higher education are largely self-managed. Szvmanski and Harkins (1987) argue that identifiability is only sufficient at reducing social loafing if an individual's effort is compared to a social standard; i.e. compared to the work of other group members. The general social loafing literature has found evidence for a negative relationship between peer evaluation and social loafing (George, 1992; Karau & Williams, 1993; Szvmanski & Harkins, 1987). When investigating student teams this finding is less conclusive. Both Lam (2015) and Price et al. (2006) did not find a significant relationship between peer evaluation and social loafing. In contrast, Aggarwal and O'Brien (2008) found that peer evaluations greatly reduced the incidence of social loafing in student group projects.

Duration of Group Work. The literature has largely neglected to specify the interaction period of group members (Price et al., 2006). For example, in their examination of the structural antecedents of social loafing, Aggarwal and O'Brien (2008) did not consider the duration of teamwork. The duration may be an important structural antecedent that influences the identification of social loafing behaviours (SLBs). Students may only identify social loafing after a behaviour has been repeated (Boren & Morales, 2018). From this, teams that exist for shorter durations may not have time to identify behaviour as social loafing. Alternately, shorter duration groups may not have time to engage in counterproductive behaviour (Tomcho & Foels, 2012). In their meta-analysis, Tomcho and Foels (2012) found groups operating over shorter durations demonstrated better learning outcomes than those over longer durations (half a term or more). They suggest that groups of longer duration may experience greater levels of comfort with one another, leading to social loafing.

Limited interaction between group members is one criticism of experimental research that examines social loafing, as interaction is often held constant to avoid extraneous variables, such as increased cohesiveness (Robbins, 1995). Such groups are formed for the purpose of the experiment and dissolve shortly after. This does not reflect the interaction and

subsequent cohesiveness (or lack thereof) present in naturally occurring teams. The present study will examine student teams that work together over several weeks in order to ensure students are given adequate time to identify loafing behaviour.

Knowledge of effective group work. Students are required to participate in group work but may be deficient in the necessary knowledge and skills about how to effectively work in a group (Aggarwal & O'Brien, 2008; Ettington & Camp, 2002). Jassawalla et al. (2009) described that an "idiosyncratic quirk of [their] sample" (p. 50) was that some students were receiving insufficient instruction and training about how to work in a team (while others were not). They argued that this is reflected in the manner students will compensate for the social loafer rather than address the loafing. In the same line of thought, they proposed that students were unable to address certain loafing behaviours, indicating that students' conflict resolution and people management skills may have been deficient. Jassawalla (2009) did not query whether students received instruction and training about effective teamwork, or examined their previous teamwork experience, and so this element presents a gap in the research about student social loafing. It follows that the present research will use a sample of students that have received instruction about social loafing and effective teamwork to investigate whether social loafing will still occur in this condition. Table 2 presents a summary of the structural conditions that have been found to influence social loafing.

Table 2

Summary of Structural Conditions Influencing Social Loafing

Explanation	Summary
Group Size	As group size increases, social loafing increases (Ingham et al., 1974)
Group Formation	Mixed findings link group formation to social loafing. Some find no impact (Aggarwal & O'Brien, 2008; Lam, 2015). Others report reduced free-riding (Swaray, 2012).
Peer evaluation	While not always the case, peer evaluation generally seems to increase identifiability, leading to lower incidents of social loafing (Aggarwal & O'Brien, 2008; Brooks & Ammons, 2003).
Duration of Group work	An overlooked factor, students may report greater incidents of social loafing as they have more time to identify the behaviour (Boren & Morales, 2018).
Interaction between members	Field research is reflective of real workgroup interaction, important to determine the conditions in which students experience social loafing.
Knowledge of effective group work	Students may manage and identify social loafing behaviour differently based on their knowledge of effective group work (Ettington & Camp, 2002).

Future Trends

The future research direction provided in Simms and Nichols' (2014) literature review identified that the social loafing literature is veering towards the examination of virtual-teams (Simms & Nichols, 2014). This also raises the question of how teams identify social loafers in teams that have both face-to-face meetings and complete work using virtual platforms. In addition to this gap, their review identified that the social loafing research is limited by the over-use of student samples. What they did not mention was whether the occurrence of social loafing in student samples may differ from those in other settings (such as a workplace context). When considering that a large proportion of the knowledge generated about social loafing is based on student samples, an investigation of social loafing from a student perspective is warranted to further explore the student experience.

Student Social Loafing Behaviour

Jassawalla et al. (2008, 2009) have largely informed the student perspective of social loafing. Their study introduced a shift away from utilising students as participants within social loafing research towards exploring students for their perspective about social loafing. In practical terms, their two-fold investigation sought to determine what students believed were SLBs and why students perceived social loafing to be taking place. The qualitative section of Jassawalla et al.'s (2008) research found loafing behaviour to include poor work quality, reduced or non-contribution of work and distractive and disruptive behaviour. Jassawalla et al. (2009) quantitatively tested this expanded description of social loafing behaviour and found that poor work quality and non-contribution of work loaded on the same factor, yet distractive and disruptive behaviour loaded on its own distinct factor. Two points are evident from this. The first being that students could not conceptually separate doing poor work quality and contributing less. Second, students that distracted the team and disrupted their focus were also considered social loafers, even if they did not contribute poorly. The latter point demonstrated that student social loafing may not be fully encompassed by the unidimensional, traditional operationalisation of social loafing as poor contribution (George, 1992; Karau & Williams, 1993).

One distinct shortcoming of Jassawalla et al.'s (2008, 2009) operationalisation is their focus on solely face-to-face interaction, as group work is increasingly taking place over an online, technology-supported format (Chen, Zhang, & Latimer, 2014; Suleiman & Watson, 2008). The use of technology as a method of contribution to a group assignment introduces an additional variable to consider. For example, one may be unable to contribute in person

but may fulfil their group work obligations using technology. It is argued that Jassawalla et al. (2008, 2009) used a limited operationalisation to measure their SLBs by excluding the manner teams can work using technology-assisted platforms. Individuals who could not attend meetings or were not present for team meetings may have been incorrectly identified as loafers if the item only asked whether a member attended the team meeting.

Research has indicated that university students participate in cyber-loafing during lecture time (Ragan, Jennings, Massey, & Doolittle, 2014; Taneja, Fiore, & Fischer, 2015). Cyber-loafing refers to the intentional and redundant use of information and communication technologies. Given that lectures increasingly require students to use technology to assist with work (Ragan et al., 2014), university spaces are progressively becoming technology rich. It is not a stretch to say that similar counterproductive technology use would be apparent during team meetings. Previous research has investigated social loafing in technology-supported teams, yet no research has investigated whether the use of technology is perceived as an SLB (Suleiman & Watson, 2008). The present study will explore inappropriate technology use during team meetings in an effort to address this gap in the literature.

On a similar note, information and communication technologies provide students with an expanded platform of where and when teamwork can take place. This allows students to set team meetings using social media as well as work together without being in the same physical location (Suleiman & Watson, 2008). Technology allows teams to remain in constant communication. A gap in the literature exists regarding whether students will perceive the lack of contribution to a team's discussions, or unresponsiveness on technology platforms, as a SLB. Boren and Morales (2018) conducted a qualitative exploration and identified that students who did not respond to text messages about the teamwork and meetings were perceived as not taking the group seriously, unaccountable to the team and lazy. This provides an indication that social loafing not only concerns distractive and disruptive behaviour or amount and quality of work but extends into other spaces.

In an effort to establish whether the multi-dimensional conceptualisation of social loafing is applicable in other contexts, the present study will use Jassawalla et al.'s (2008, 2009) research as a basis to investigate the student perspective of social loafing within South African student teams. As instigated by Jassawalla et al. (2008), the present research will investigate student perceptions of social loafing in an exploratory manner, first by establishing the relevance of their measures in the present context and second by testing these

quantitatively. Given the aforementioned limitation concerning technology, both in-person and technology-assisted teamwork will be incorporated. In addition, the study will explore the use of technology at an inappropriate time as a SLB.

In order to establish whether Jassawalla et al.'s (2009) poor work quality and distractive disruptive behaviours, as well as the additional dimensions identified, are considered SLBs within South African student teams, the following hypothesis is proposed:

> *Hypothesis 1*: Students perceive that social loafing behaviour is characterised by five dimensions: (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution (e) distractive and disruptive behaviour.

Antecedents to Student Social Loafing Behaviour

Loafer apathy. Jassawalla et al.'s (2009) explored loafer apathy as an antecedent to social loafing and found that it predicted both poor work quality and distractive and disruptive behaviour. Loafer apathy was defined as the "social loafer's seeming disinterest and lack of caring for the task, other team members, or the grade, to their perceived laziness and expectation that others would pick up the slack" (Jassawalla et al., 2009, p. 45).

Jassawalla et al.'s (2009) work focused on perception and attribution as opposed to actual loafing behaviour. This meant the student participating already had knowledge of their compensatory behaviour (or that they would compensate). This student would then make an attribution that the social loafer believed others will compensate, attributing the apathy to this assumption. Measurement of perception is likely influenced by the participant's knowledge of what their behaviour will be in response to the loafing, which differs from experimental research such as Hart et al. (2004), who measured actual loafing behaviour in the dichotomous conditions of high or low group member compensatory effort. The present study will use diverse student teams and a number of structural control condition to replicate and extend Jassawalla et al.'s (2009) exploration of individual disposition and student perception of social loafing.

Social disconnectedness. Jassawalla et al. (2009) defined social disconnectedness as the weak or negative nature of relationships between the social loafer and their group members. They found social disconnectedness to be related to one factor of student social loafing, distractive and disruptive behaviours but unrelated to poor work quality. Murphy, Wayne, Liden, and Erdogan (2003) did not find a significant interaction between team member relationship quality and social loafing. They relied upon supervisor ratings only,

potentially leading to an inaccurate measurement of social loafing. Social exchange theory posits individuals that have high-quality relationships will exert effort and perform at higher levels in order to benefit their exchange partner (Emerson, 1976). Similar to social exchange theory, research has demonstrated that low and moderately cohesive groups experienced more social loafing than highly cohesive groups (Karau & Hart, 1998; Karau & Williams, 1997). Those who perceive others as socially disconnected may be more inclined to view those same individuals as lower contributors and more inclined to detract and distract from the task at hand. To continue the work by Jassawalla et al. (2009), social disconnectedness will be examined in relation to the additional SLBs in the present research.

Poor communication skill. Knowledge, skills and abilities may influence the perception that social loafing is taking place as well as increase actual social loafing behaviour through increased dispensability (Pieterse & Thompson, 2010; Price et al., 2006). In a South African context specifically, an individual's inability to communicate in English could be misperceived as social loafing (Popov et al., 2012). Bangeni and Kapp (2007) conducted a longitudinal qualitative study of second-language English speaking students at UCT. They found that a lack of confidence and proficiency at submitting work in English was stigmatised by peers as well as lectures and tutors. Students described experiences of intimidation for not speaking English. For instance, one student described feelings of humiliation for being singled out by a lecturer in class, being referred to a tutor for additional help and subsequently told she would not achieve high grades because of her poor ability with English (Bangeni & Kapp, 2007). With these dynamics at play, it is not a stretch to argue that students with poor communication skills will be perceived as engaging in SLBs, where poor communication skills encompass English language ability. Students may contribute less to these discussions, contribute less quality and quantity of work, may use technology to disengage from team discussions, or may not express themselves well when trying to organise teamwork if their communication skills are poor.

Responsibilities of the loafer. Students participate in many roles while at university (Boren & Morales, 2018) and may be required to compromise group work for other areas of their studies (McCorkle et al., 1999). Recent literature has identified that students involved in regular, daily extra-curricular activities are still required to contribute their portion to a group project, while those who play high-level university or professional sport are exempt from contributing the full extent of what may be required (Boren & Morales, 2018). Such findings indicate that the presence of additional responsibilities external to the team project may

precursor social loafing, as loafers conserve energy to redistribute to other areas (Bluhm, 2009; Simms & Nichols, 2014). It is expected that a loafer perceived as having more responsibilities external to the teamwork will result in a greater amount of perceived social loafing. The following hypotheses are proposed to explore the antecedents of social loafing that are relevant to the student perception of social loafing behaviour:

> *Hypothesis 2:* Loafer apathy explains significant variance in (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.
>
> *Hypothesis 3:* Poor communication skills explains significant variance in (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.
>
> *Hypothesis 4:* Social loafer responsibilities explains significant variance in (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.
>
> *Hypothesis 5:* Social disconnectedness explains significant variance in (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.

Consequences of Perceived Social Loafing

Inconsistent team responses to social loafing have been identified in the literature. In some cases, perceived social loafing leads to motivation gains of other team members, termed *social compensation* (Liden et al., 2004). Others note a reduction in effort in response to social loafing, termed the *sucker effect* (Kerr, 1983; Mulvey & Klein, 1998). These responses have been examined in isolation, and are rarely discussed together (Schippers, 2014). Their relationship with social loafing has not been explored within the same research study.

Sucker effect. When investigating student teams, Mulvey and Klein (1998) found support for the idea that performance declines in the presence of perceived social loafing, as the group anticipates overall lower effort and may then reduce their goals surrounding performance. They tested this hypothesis and found that the sucker effect and anticipated lower effort mediated the relationship between perception of social loafing and performance goals. These results indicate that the sucker effect may be one reason that performance standards decline when perceived social loafing takes place (Mulvey & Klein, 1998). This reflects similar findings within the earlier work examining the sucker effect (Jackson & Harkins, 1985; Kerr & Bruun, 1983). Kerr (1983) found that the sucker effect would take place if the social loafer was perceived as able to contribute but did not. Alternately, group

members would take on extra workload, as opposed to reducing their effort, if a group member did not have the ability to contribute to the task. When controlling for partner ability, Jackson and Harkins (1985) manipulated the perception of partner effort (low or high effort). They found that effort-matching took place, confirming the existence of the sucker effect. Robbins (1995) highlighted that these earlier works utilised an experimental design which limited the interaction between group members. Accordingly, they do not reflect a real teamwork situation within a student context. Field research is required to determine whether the sucker effect will take place within student teams that have had the opportunity to interact and develop.

Social compensation. Social compensation has been examined to a lesser extent within the literature investigating the responses to social loafing. Williams and Karau (1991) found that social compensation occurred when group members expected or perceived co-workers to perform poorly on tasks that were important or meaningful, regardless of the loafer's ability. Karau and Williams (1997) found that individuals in non-cohesive groups would compensate for social loafing if this additional effort would lead to favourable individual outcomes. Alternately, individuals in cohesive groups worked equally hard in coactive versus collective settings. Todd, Seok, Kerr and Messé (2006) presents a critique of these early studies for the potential artefactual confound present: a coactive control group that allowed coactive participants to compare results could lead individuals to reduce or increase their effort owing to comparison with other members of the coactive group (Williams & Karau, 1991). This may form a baseline that misrepresents the amount of motivation gains (social compensation) and losses (sucker effect) as a result of social loafing. Todd et al. (2006) addressed this shortcoming within their laboratory experiment by using confederates within the coactive control group. Not only was social compensation a response to social loafing, it may have been underestimated in previous experiments. A shortcoming of this experimental research is that it does not capture the realistic structural conditions and demands that students face within teamwork assignments. For example, student teams can vary in composition, size, the method of formation, number of peer evaluations, knowledge of social loafing and so on (Aggarwal & O'Brien, 2008; Price et al., 2006). Field research can address these shortcomings, yet a limited amount has focused on social loafing, social compensation and performance.

Jassawalla et al. (2009) and Schippers (2014) address this deficiency by using field investigations. They found that students engage in social compensation as a response to social

loafing. Schippers (2014) demonstrated that the relationship between self-reported social loafing and performance was complex. She found that the relationship between social loafing and performance would only be moderated by the personality traits of high agreeableness and conscientiousness if task difficulty was high. That is to say, social compensation would only take place if the task was difficult and the average team personality traits of agreeableness and conscientiousness were high (Schippers, 2014). Jassawalla et al. (2009) found that insufficient contribution of poor work quality prompted other members to do extra work (i.e. compensate). Consistent with the literature investigating social loafing, they did not examine the relationship between social loafing, social compensation and performance.

Little is known about how South African students in diverse teams will respond to perceived social loafing. Examining the relationship between the sucker effect and social compensation, which seem to be opposite responses, will generate a broader understanding of the consequences of social loafing in student-led teams. Based on the review of social compensation and the sucker effect, the following hypothesis is proposed to investigate their relationship:

> *Hypothesis 6*: Social compensation and the sucker effect are negatively related.

Given the limited amount of field studies that have investigated the responses to social loafing in student-led teams, the present research will address this gap with the following hypotheses:

> *Hypothesis 7*: Significant variance in the sucker effect is explained by (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.
>
> *Hypothesis 8*: Significant variance in social compensation is explained by (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.

Leadership and Social Loafing

Although the consequences of social loafing have been established and certain mechanisms for reducing it have been explored, the relationship between leadership and social loafing has not received a great amount of attention within the literature (Simms & Nichols, 2014). Ferrante, Green and Forster (2006) investigated formal, incentivised leadership and its influence over self-reported social loafing. Although they found support for

the notion that formal leadership minimised dysfunctional behaviours and improved team performance, it only made a small significant difference in social loafing. The manner students rated their own social loafing behaviour may have led to an underestimation which constituted a shortcoming in their study. What their research did demonstrate was that the presence of formal leadership can result in better team performance. This suggested that leaders may motivate a social compensation effect. When considering that Jassawalla et al.'s (2009) definition of loafer apathy includes the lack of care and interest partly because team members will compensate, if effective leadership demonstrates to loafers that social compensation will take place in the presence of loafing, students may become more apathetic and loaf. The present study will investigate whether effective leadership will moderate the relationship between loafer apathy and the SLBs. The following hypothesis is proposed to explore this possibility:

> *Hypothesis 9*: Leadership effectiveness moderates the relationship between loafer apathy and (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.

Team Performance and Social Loafing

Social loafing and its negative impact on individual outputs and subsequent team performance constitutes a prominent motive for the focused reduction or prevention of social loafing in much of the literature (Simms & Nichols, 2014), at the expense of considering whether social loafing is related to team performance within naturally occurring teams (Schippers, 2014). Collective performance has been found to decline as a result of social loafing in both experimental research (Ingham et al., 1974; Kerr, 1983; Latané, 1981) and field investigations (Price et al., 2006; Schippers, 2014). This is a reasonable conclusion considering that one person withholds effort or contributes less than others in a group, leading to a decline in productivity (George, 1992). Mulvey and Klein (1998) demonstrated that perceived loafing and group performance were negatively related. This was replicated in later work by Schippers (2014), who found that social loafing and team performance were negatively related, but that social compensation would prevent the negative impact of social loafing. The following hypothesis is proposed to investigate if a similar negative relationship exists between social loafing and team performance within South African student teams:

> *Hypothesis 10*: Team performance is negatively related to (a) unavailability, (b) tech loafing, (c) poor work quality, (d) discussion non-contribution and (e) distractive and disruptive behaviour.

Summary of Literature Review

The present study will explore the prevalence of social loafing in student-led university teams within a South African context. It aims to determine what South African students consider to be social loafing behaviour. This is undertaken in an effort to confirm that the multi-dimensional conceptualisation of social loafing proposed by Jassawalla et al. (2009) is relevant within diverse teams. It will investigate whether loafer apathy, social disconnectedness, the skills of the social loafer as well as the other responsibilities they may hold are antecedents of the perceived SLBs identified. In addition, it will simultaneously investigate social compensation and the sucker effect to better understand the conditions which influence their occurrence within student teams. The team performance will also be examined in relation to SLB to determine if perceived social loafing has a tangible, detrimental consequence for student teams.

A number of structural control variables were identified within the literature review and will be instituted to a degree within the present study. This intends to focus on the antecedents, SLBs and consequences of social loafing by controlling for confounds that may then reduce the generalisability of the findings. See Figure 1 for an illustration of proposed hypotheses.

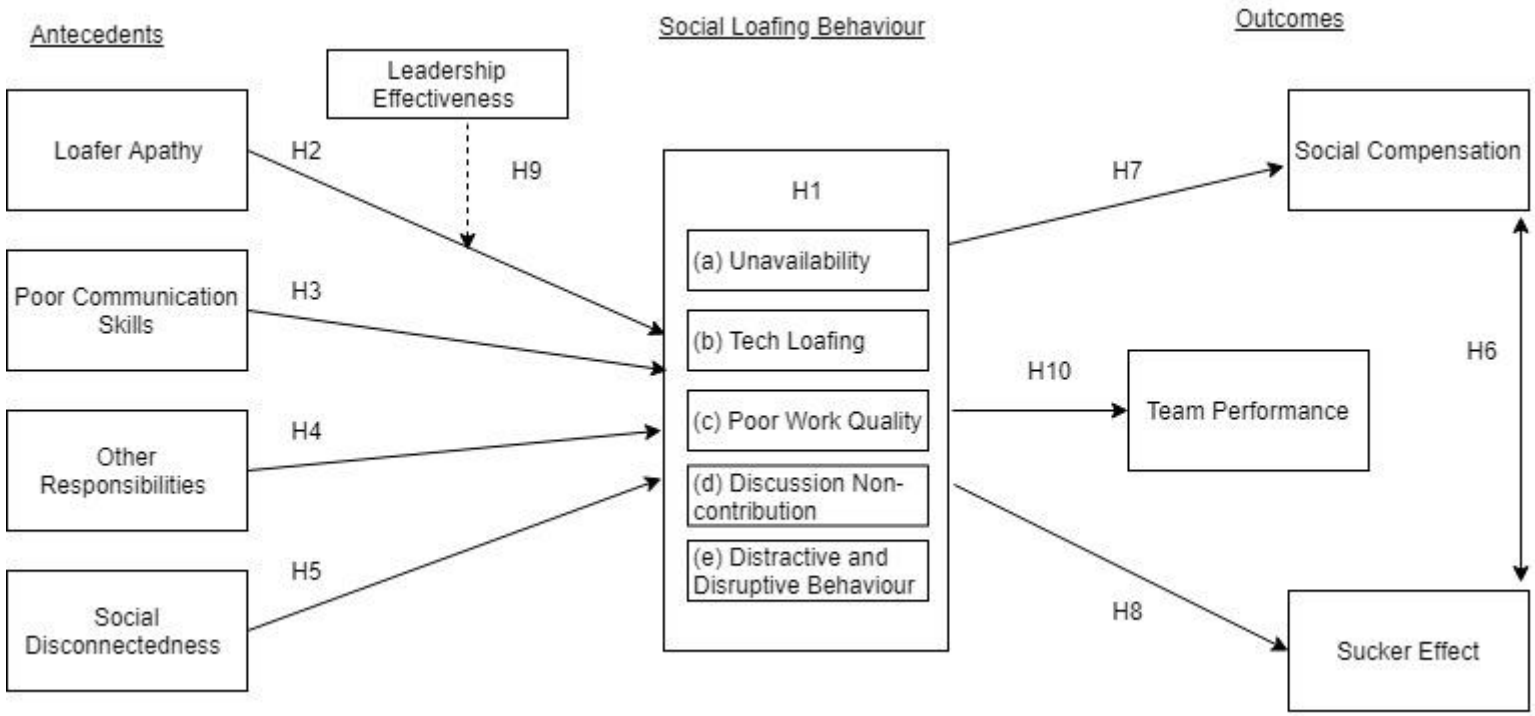

Figure 1. Proposed hypotheses (H).

Method

The purpose of this study was to examine the relationship between perceived antecedents and perceived SLB in a South African context. Outcomes of social loafing are explored, included social compensation, the sucker effect, and subsequent team performance. This chapter presents the method that was used and is divided into eight sub-sections: (1) Research design, (2) research context, (3) sampling approach, (4) sampling frame, (5) participants, (6) procedure, (7) measures and (8) data analysis procedures.

Research Design

The research focus was quantitative, with two less-dominant qualitative components (Creswell & Clark, 2013). Phase one constituted the first qualitative component in which a content analysis of students written reflections concerning "why [student social loafing] tends to occur in student project teams" was conducted (Krippendorff, 2004). Phase two constituted the second qualitative component, where an experiential social loafing exercise was observed. These two sources of qualitative data assisted in the development of the survey questionnaire administered in phase three, the main study.

The main study used a descriptive, cross-sectional approach and collected data using self-report survey questionnaire (Terre Blanche, Durrheim, & Painter, 2006). Student assignment grades were also used in conjunction with the survey data to investigate the aims of the study.

Research Context

The research took place at the University of Cape Town, the top-ranking university in Africa. UCT is situated within Cape Town, a city within South Africa. The legacy of apartheid is still apparent within the South African higher education context today. Despite the agenda of transformation, cited as a priority since the transition to democracy in 1994, students from previously disadvantaged groups (black, coloured and Indian) still voice their continued experience of feeling unsafe while at university as well as feelings of exclusion from a university space (Cornell & Kessi, 2017; Shefer et al., 2018).

While the student context is increasingly diverse, the measures that are put in place to achieve this may impact on the group dynamics present with the student context and warrant recognition. Black students require lower Matric (Grade 12) results to be accepted into university than white students, who require higher results in Matric (UCT, 2018). This is one factor that may contribute to the internalisation of negative stereotypes that can lead to self-

silencing and insecurity (Cornell & Kessi, 2017). Such behaviours have the potential to impact the efficiency and healthy functioning of diverse groups.

These contextual factors are not extensive but serve to indicate that interaction between South African students may be influenced by additional contextual variables. These may have implications for the findings of the present study.

Sampling Approach

The study instituted a purposive, non-random sampling method for all components of the data collection: (1) text analysis, (2) experiential exercise, (3) survey and (4) team grades (Terre Blanche et al., 2006). A purposive sampling method was used to target courses that utilised teamwork at the University of Cape Town.

The survey initially targeted two third-year single semester courses at UCT, BUS3039F/S, for the specific structure of its teamwork component. After a low response rate from the first semester of this course, a fourth-year course, Strategic Thinking, was approached as most of these students had completed BUS3039F/S in the previous year. They were asked to refer to their prior experience within BUS3039F/S when completing the survey. All the students that partook in the study had completed at least half of their teamwork component before being surveyed.

Sampling Frame

A single course was examined. As such, the same teamwork structure was applied across each team. Teams were formed by the teaching assistant at random. Team size was limited to five members (or six members if students entered the course after the teams had been formed). Teams worked together for a 12-week semester. Peer evaluations were not an inherent part of the course. Teams were required to create a team contract as part of their teamwork submission. This contract could stipulate any point relating to team matters and theoretically could include peer evaluations and penalties associated with poor evaluations. Each team received the same assignment; therefore, the scope of the assignment was held constant. A collective grade was given to the teams. The work submitted as a team contributed 30% towards each member’s overall grade for the course. As part of the course, students were taught material on topics effective teamwork, people management skills and social loafing.

Participants

Phase 1: Text analysis.

The entire class of BUS3039F participated in the test. The sample was composed of (*n* = 243) students in BUS3039F.

Phase 2: Exercise observation.

The students that attended a non-compulsory BUS3039F lecture took part in an experiential social loafing exercise. The sample was constituted by (*n* = 24) BUS3039F students. The demographic variables were not captured.

Phase 3: Main study.

Survey. The sample was composed of (*n* = 250) students who had participated in BUS3039. The response rate was 23% as a total of 1092 students received the survey across the three courses contacted. The final sample (*n* = 229) excluded 21 participants who opened but did not start the survey. Of those who proceeded past the first page, 124 participants had experienced at least one social loafer in their team (see Table A1). A slight majority of the sample were male (50.74%). This is slightly lower than the course population (male = 60.08%; female = 39.34%). In relation to race, the sample was similar to the contacted population. Half the sample was composed of White students (50.50%), slightly higher than the population (40.40%). The number of Black students (18%) and Indian/Asian students (15%) was very similar to the population (Black students = 19.89%; Indian/Asian students = 13.52%) and were the second and third most prominent racial groups. Most of the sample cited English as their first language (78%). This information was not available from the courses examined. A full demographic breakdown of the sample (Table A2) and the students enrolled in BUS3039F/S and Strategic thinking (Table A3) can be found in Appendix A.

Team performance. The entire class of BUS3039F/S participated in the summative assignment but only participant who listed their team name or number in their survey response could be linked to a grade (*n* = 112).

Figure 2 illustrates the breakdown of the undergraduate business student courses that were contacted, the students in each course and their contribution to the different phases of the study.

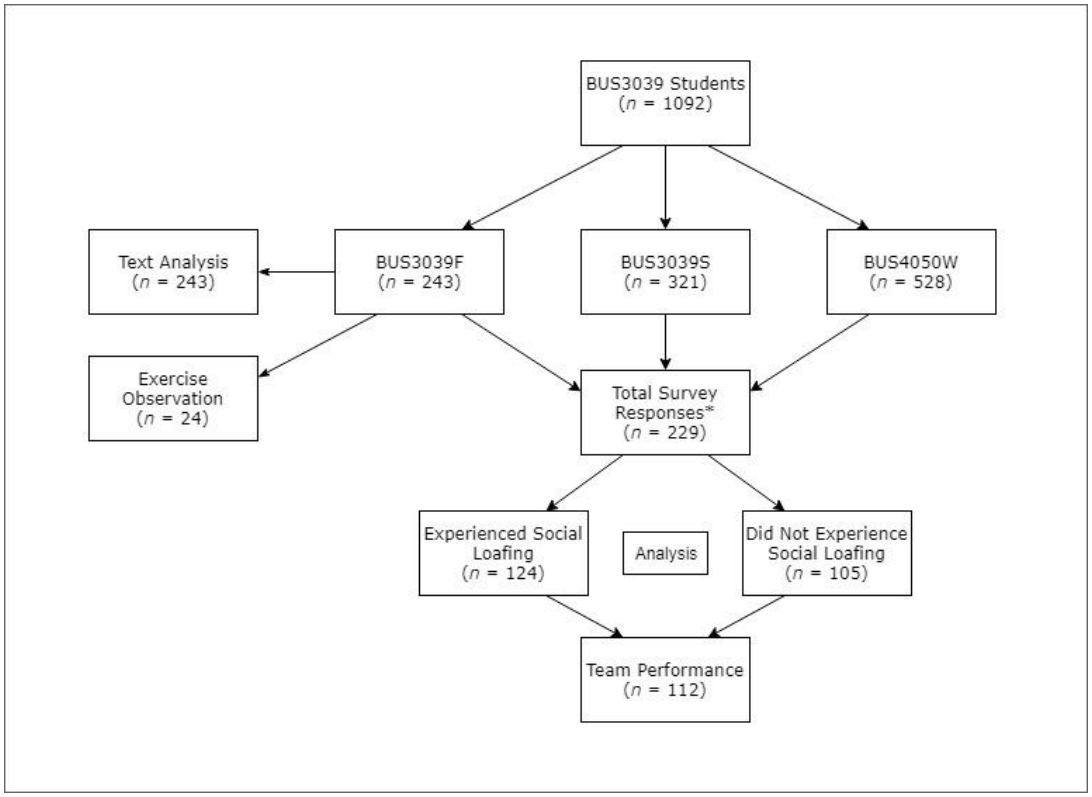

Figure 2. Flow diagram of students and their participation in the study.
Note. BUS3039 Students = number of students contacted with the survey. BUS4050W denotes students from Strategic Thinking who were referring to their experience of BUS3039 in 2017. *21 participants did not proceed past the cover page and were excluded from the total sample.

Procedure

Phase 1: Text analysis. As a part of the course requirements, commerce students taking part in a people management course at UCT were required to take a class test. One question within this test asked them to "reflect upon why [social loafing] tends to occur in student project teams". The course convenor granted permission to access the test scripts and make a copy of each answer. Permission from the Faculty of Commerce Research Ethics Committee and the Executive Director of Student Affairs was obtained to use UCT students as participants (see Appendix B). Only permission from the aforementioned bodies was required in order to access the student test scripts, which are the property of UCT.

A text analysis of student responses (n = 230) to this question was conducted in order to determine whether the measures were taken from Jassawalla et al. (2009) were appropriate to use within the South African student context. In addition, it intended to identify variables specific to South African university student that may not have been included in prior research. The answers remained anonymous and were securely stored on the researcher's laptop.

Phase 2. Exercise observation. As part of the regular BUS3039F class activities, the lecturer conducted an experiential exercise to generate student engagement about the concept of social loafing. In groups, students were asked to discuss a case study, which involved external factors that prevented one member from completing their task and a group member social loafing. For this exercise, each BUS3039F student group contained a student confederate that was asked to act as a social loafer without the other group members being made aware.

The students formed groups based on where they were sitting when the class began. The case study brief was distributed to every student by the lecturer of the class. Two briefs were handed out by the lecturer; one general brief and one brief that contained several extra lines asking the student to be a social loafer in the group discussion. The groups were given time to discuss the case study. Following this, the lecturer debriefed the class by facilitating a student discussion about the case study as well as the behaviour of the confederate social loafer. As part of the research, the confederate social loafers were observed, and their behaviour was recorded. The group's discussion about the brief and their own group work behaviour was noted. Notes were taken by the researcher during the experiential exercise.

Phase 3: Main study. Permission from the Faculty of Commerce Research Ethics Committee and the Executive Director of Student Affairs was obtained in order to use the University of Cape Town students as participants. Permission was obtained from the course convenor of BUS3039F/S and Strategic Thinking.

The online format of the questionnaire was hosted on Qualtrics and was distributed via the UCT online student portal, Vula, to the students in each course. Various faculty members with the appropriate permissions distributed the online format of the survey (for example a course convenor, lecturer or tutor). The first semester students (BUS3039F) were asked to participate over Vula while the second-semester students (BUS3039S and Strategic Thinking) were approached within a lecture as well as over Vula to increase response rate.

The survey was incentivised to increase the response rate. A R500 raffle prize was offered for completion of the survey. The winner was selected by randomly drawing out of a hat. Completion of the survey took between 5 and 15 minutes. The introduction on the first page of the survey explained the purpose of the study as well as any associated benefits and risks of participation. It stated that the completion of the survey was voluntary and that all responses would remain confidential. To proceed with the online questionnaire, students were

required to click a button that represented consent. Anonymity was optional, as participants were asked to give their team name to link team results with their responses. Mobile numbers and completed surveys were not linked thereby ensuring anonymity in relation to participants' personal information.

Measures

The measurement instrument was a self-report survey. The response format differed across scales. Itemised rating scales and a checklist type question were used (see Appendix C for survey scales and items created for the present research). Students were asked to write their team number in order to link responses to an overall team grade for the two team projects. This supplemented the data captured in the survey and provided insight into how the presence of social loafing may influence team outcomes.

Social loafing behaviour. Social loafing behaviour was measured on a five-point itemised rating scale ranging from (1) *never* to (5) *always*. Higher scores indicate a greater amount of the perceived SLB. Items pertaining to poor work quality and distractive and disruptive behaviour were adapted from Jassawalla et al. (2008). The original subscale of *distractive and disruptive behaviour* had a Cronbach's alpha of .671 whereas *poor work quality* had a Cronbach's alpha of .82. Items were adapted to be more specific, to avoid using gender pronouns and to reflect the projects of the BUS3039 students. For example, "member did a poor job of the work she/he was assigned" was changed to "the social loafer… did poor quality work". Additional items pertaining to technology use and avoiding team participation and discussion non-contribution were developed based on responses from the text analysis and the observation of the experiential exercise.

Self-reported social loafing. The respondents own social loafing was captured using an adapted version of George's (1992) ten item *self-reported social loafing* measure. Schippers (2014) utilised a four-item adapted version of this scale. It employed a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Higher scores indicate a greater amount of one's own social loafing. Schippers (2014) scale demonstrated a Cronbach's alpha of .85. The same scale has been utilised in the present study. Items included "I put in less effort than other members of my team".

Social disconnectedness. The presence *social disconnectedness* was measured using the scale developed by Jassawalla et al. (2009), which demonstrated a Cronbach's alpha of .79. The scale consisted of a three-item, five-point Likert scale ranging from (1) *strongly*

disagree to (5) *strongly agree*. Higher scores indicate a greater amount of *social disconnectedness*. A sample item was "the social loafer…did not like one or more members in the team".

Loafer apathy. The presence of apathetic loafers was measured using an adapted version of the scale introduced by Jassawalla et al. (2009), which demonstrated a Cronbach's alpha of .6. The scale consisted of three items and utilised a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Higher scores indicate a greater amount of *loafer apathy*. The items were adapted to be more specific. For example, rather than "the social loafer…expected others to pick up the slack with no consequences to him/her" the item in the present study read "the social loafer…seemed to expect others to pick up the slack with no consequences to their assignment grade". Additional items were generated based on the text analysis and included apathy towards university in general in addition to their grade or the assignment.

Other responsibilities. The presence of other responsibilities was captured using a scale developed based on the test analysis. This was a four-item, five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Higher scores indicate a larger amount of *other responsibilities*. An item was "the social loafer…seemed to have other non-university work responsibilities".

Poor skill and ability of the loafer. Communication skills were identified in the literature review and items were developed based on the student test script content analysis. This was a four-item, five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Higher scores indicate a larger amount of *poor communication skills*. A sample item included "the social loafer…seemed to have poor communication skills"

Responses to perceived social loafing. A checklist adapted from Jassawalla et al. (2009) captured the action/s taken by the participant in response to the social loafing as well as the perceived social loafers reaction to the action/s taken. A similar checklist was used to capture the action/s taken by the participant's team in response to the social loafing as well as the perceived social loafer's reaction to the action/s taken by the team. An item includes "the team… did nothing".

Social compensation. The presence of social compensation was measured using the same scale employed by Jassawalla et al. (2009), which had a Cronbach's alpha of .72. The scale consisted of four items and utilised a five-point Likert scale ranging from (1) *strongly*

disagree to (5) *strongly agree*. Higher scores indicate a greater amount *of social-compensation*. A sample item was "as a result of the social loafing… other team members had to do more than their share of work".

Sucker effect. The presence of the sucker effect was measured using Mulvey and Klein's (1998) 4 item sucker effect measure. It employs a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Higher scores indicate a greater level of the *sucker effect*. A sample item was "as a result of the social loafing… other team members lowered their effort". Mulvey and Klein's (1998) scale demonstrated a Cronbach's alpha of .92.

Demographic characteristics. The demographic characteristics of race, gender, age, socio-economic background and hours of work external to university were captured using multiple-choice questions and five-point Likert scales ranging from (1) *strongly disagree* to (5) *strongly agree.* All sensitive demographic variables gave respondents the choice to choose other or prefer not to answer. Demographics of the participant as well as their perception of the social loafer's demographics were captured.

Team performance. Team performance was measured using the student's final team assignment grade. Permission to use the BUS3039F teamwork final assignment grade was granted by the course convenor of BUS3039F. These grades served as an objective measure of *team performance*. Ethics approval was granted to use team grades and students were aware that if they chose to list their team number, their grade would be used in the research. Grades were examined on a team level to ensure anonymity was retained and they could only be linked to a survey response if a specific team number was given in the survey.

Data Analysis Procedure

Text analysis. The students' written responses as to why social loafing occurred was analysed within Adobe PDF reader. The content analysis used an iterative process in which the student's responses were categorised into topics. These were determined during the process of content analysis (Krippendorff, 2004). It recorded the frequency of each topic to quantify their relevance and importance from the student perspective.

Survey. The data were analysed using IBM SPSS Statistics 24. The data were cleaned based on the statistical protocols outlined by Tabachnick and Fidell (2014). Reliability was assessed using Cronbach's alpha (Field, 2014). Exploratory factor analysis with principal axis factoring was used to assess the dimensionality of the scales (Tabachnick & Fidell, 2014).

Descriptive statistics were reported. Factor analysis, correlation, multiple linear regression, and hierarchal regression were used to test the hypotheses.

Team performance. Pearson product moment correlation analyses were used to investigate the relationship between team performance, the SLBs and their antecedents.

Results

The aim of this study is to examine student perception of social loafing, its antecedents and outcomes in a South African university. It examined the relationship between social loafing, its consequences (social compensation and the sucker effect) as well as whether social loafing influenced team performance. This chapter presents the results of the research and two sections. Section one presents the qualitative results (text analysis and the class observations) that informed and directed the survey development. Section two presents the quantitative results from the main study, which will examine validity, reliability, descriptive statistics and correlations, responses to social loafing, multiple regression and moderation, and team performance.

Qualitative Results

Two sources of qualitative data were used to develop the survey questionnaire: a text analysis using a content analysis procedure and an observation of an experiential exercise about social loafing. The results are presented in reference to the survey development.

Text analysis.

A content analysis (n = 243) was conducted to determine whether the measures developed in other contexts, such as Jassawalla et al.'s (2009) *loafer apathy* scale, were relevant within the South African student context. Table 3 summarises the frequency of student responses to a question asking why social loafing occurs in a student context. Appendix E contains a description of these categories and how they overlap.

The results regarding compensation, identifiability, laziness and academic goal differences established that South African business students have a similar perspective to those in Jassawalla et al.'s (2009) sample, which indicated that their measure of loafer apathy was suitable for the present sample. Some items were adapted to include university work in general, as students described differing levels of interest in university as a reason for contributing less. Distractive and disruptive behaviour was not described by students but was retained to test its relevance quantitatively.

The description of leadership in conjunction with unclear roles in the team indicated that an investigation of leadership effectiveness in this sample was appropriate. Although beyond the scope of the present study’s investigation, the description of diverse teams and the multi-cultural differences that contribute to social loafing direct focus to the manner UCT students may experience team dynamics different from those in other settings (Bangeni &

Kapp, 2007). The text analysis lead to the adaption of several items within the measures section and informed the development of several SLBs that were identified in the literature review but have not previously been quantitatively examined.

Table 3

Text Analysis: Student Perception about Why Social Loafing Occur

Ranked Category	Frequency	%	Example
1 Social compensation	52	21.40	"Classmates will pick up the slack because they done want bad grades" (Answer 33)
2 Identifiability	47	19.34	"…same grade as the other teammates" (Answer 142)
3 Student prioritisation	33	13.58	"…may not value a team project as highly as other team members…is not a priority" (Answer 193)
4 Unclear roles or direction	30	12.35	"…no clarity on roles and responsibilities that have to be taken on" (Answer 73)
5 Academic goal differences	28	11.52	"…some members are aiming for just a pass [and] are less likely to contribute high quality work" (Answer 169)
6 Diverse teams	26	10.70	"…different set of skills, values and socio-economic backgrounds!" (Answer 164)
7 Lack of leadership	23	9.47	"…ineffective leadership and team management…" (Answer 97)
8 Self-esteem	20	8.23	"…not confident enough to share his own ideas." (Answer 222"
9 Group size	19	7.82	"…occurring in team where there are a lot of members" 17
13 Laziness	13	5.35	"…lazy student knows that there will be another group member will end up doing the work." (Answer 52)
13 Sucker effect	8	3.29	"…thinking other members will loaf too, therefore decides not to do the work." (Answer 41)
14 Conflict avoidance	8	3.29	"…accommodating style of conflict management." (Answer 107)

Note. n = 243. These were not mutually exclusive responses.

Exercise observation.

The observation of a BUS3039 class exercise (n = 24) yielded several elements to consider for the survey development. First, students who were asked to act as social loafing confederates visibly used their phone or laptops to disengage from the group discussion. Second, others in the discussion noticed the loafing behaviour but did not connect the term social loafing to the confederates' behaviour. Third, these members, despite noticing the inappropriate behaviour, did not confront the confederate and ask them to participate. They did, however, try to engage the confederate in the discussion. Fourth, when discussing the case study, two separate sets of students could not distinguish between social loafing and a person who was prevented from working because of circumstances outside of their control.

This exercise revealed that students perceive technology use during a discussion to be an SLB. It verified the necessity to quantitatively measure if student that used technology at inappropriate times were considered to be social loafing. The second and fourth observations listed above also indicated that students may find it difficult to label certain behaviours as social loafing as well as distinguish between what is and is not loafing behaviour. This may be one reason students engage in conflict avoidance, as they are not certain what behaviour is or is not inappropriate. Descriptive measures were included to record individual and team responses to the loafer (for example confrontation or doing nothing) as well as whether the loafer's behaviour changed in reaction to these responses.

Quantitative Results

Factor analysis.

The measures examining antecedents to social loafing, the social loafing behaviours and consequences of social loafing were subjected to an exploratory factor analysis (EFA) and were assessed on a number of criteria prior to conducting the EFA (Tabachnick & Fidell, 2014). Univariate outliers were assessed by using an examination of boxplots (see Figure D1-Figure D4). Several outliers were present but were retained as they were not considered abnormal as they remained within the scale range (Aguinis, Gottfredson, & Joo, 2013; Watkins, 2018). To maintain the integrity of the data, these responses were retained as they may contain interesting data points and represent a true reflection of the student's perceptions. The sample size was considered acceptable for each EFA; there were at least 5 participants per item in the scales analysed (Bryant & Yarnold, 1995).

The factorability of R was ascertained. As recommended by Tabachnick and Fidell (2014) the correlation matrix of variables exceeded .3 which indicated that the data were suitable to undergo factor analysis. Bartlett's Test of Sphericity was statistically significant ($p < .05$) for all EFAs conducted, supporting the factorability of each correlation matrix. The factorability of R was further confirmed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. All three EFA's had a value above .6, which is considered satisfactory (Kaiser, 1970, 1974).

In accordance with Kaiser's (1960) criterion, only factors with eigenvalues that were greater than 1 were retained. Factor loadings greater than .3 (or less than .3) were considered sufficient (Tabachnick & Fidell, 2014).

Dimensionality of social loafing antecedents.

The 19 item antecedents to social loafing scale ($n = 108$) were subjected to an EFA using principal axis factoring. The suitability of the data were assessed. The correlation matrix revealed the presence of several correlations of .3. The KMO value was .82 and Bartlett's test of was statistically significant (χ^2 (45) = 539.07; $p < .001$.). The factorability of R was supported.

The initial EFA yielded multiple items with cross-loadings (less than a .3 difference between factor loadings; see Table A4). To gain clarity regarding the factor structure, as recommended by Tabachnick and Fidell (2014), direct oblimin rotation (an oblique rotation method) was used. This was appropriate as the factors were correlated (see Table A5). The items with low factor loadings were removed through an iterative process.

Table 4 presents the final 10 item pattern matrix, its loading of variables on factors, communalities and percentage of variance. Two distinct factors emerged with eigenvalues exceeding 1 and these explained a cumulative variance of 65.28%. These factors represent the dimensions of antecedents to perceived SLB. Dimensions are ordered and grouped by size of loading to assist with interpretation.

All variables had a factor loading greater than .3. The item descriptions indicate that factor one measured *loafer apathy* while factor two measured *poor communication skills*. Pallant (2016) recommends that the structure matrix (see Table A6) is included when rotation is used and the pattern matrix is referred to. These tables are available within Appendix A for the factor analyses that used rotation.

Table 4

Factor Analysis: Antecedents of Social Loafing Final 10 Item Pattern Matrix

Label	Item	Factors		Communalities
		1	2	
ANT7	. . . did not seem to care about the team assignment	**.851**	.001	.651
ANT3	. . . did not seem care about earning a high grade in the class	**.790**	-.159	.559
ANT8	. . . did not seem to want high grades	**.765**	-.006	.600
ANT6	. . . did not seem to mind receiving a low grade	**.711**	.027	.505
ANT4	. . . just did not seem to care about how well they did at university	**.658**	.055	.406
ANT2	. . . did not seem interested in the team's idea or direction for the assignment	**.655**	.002	.444
ANT5	. . . seemed to be just plain lazy	**.550**	.057	.333
ANT13	. . . seemed to have poor communication skills	-.018	**.982**	.750
ANT14	. . . seemed unable to contribute quality work because of their poor communication skills	-.083	**.808**	.642
ANT12	. . . did not seem to have the skills to do the assignment	.117	**.744**	.590
Eigenvalues		4.121	2.400	
Individual total variance (percent)		41.206	24.002	
Cumulative total variance (percent)		41.206	65.208	

Notes. n =108 after listwise deletion of missing data. Principal axis factoring with direct oblimin rotation. Significant loadings are presented in boldface. ANT = Antecedents.

Dimensionality of perceived social loafing behaviour.

The 19 items measuring the SLBs (n = 111) were subjected to an EFA using principal axis factoring. The suitability of the data were assessed. The correlation matrix revealed the presence of several correlations above .3. The KMO value was .77 and Bartlett's test of sphericity was statistically significant (χ^2 (91) = 1051.57; p < .001.). The factorability of R was supported.

The initial EFA yielded multiple items with cross-loadings (less than a .3 difference between factor loadings; see Table A7). Direct oblimin rotation, an oblique rotation method, was used. This was appropriate as the factor correlation matrix depicted several moderate correlation values (see Table A8).

The items with low factor loadings were removed through an iterative process. Table 5 presents the final 14 item pattern matrix, its loading of variables on factors, communalities

and percentage of variance (see Table A9 for structure matrix). Four distinct factors emerged with eigenvalues exceeding 1 and these explained a cumulative variance of 74.80%. These factors represent the dimensions of perceived social loafing behaviour. Dimensions are ordered and grouped by size of loading to assist with interpretation.

Table 5

Factor Analysis: Final 14 Item SLB Pattern Matrix

Label	Item	Factors				Communalities
		1	2	3	4	
SLB15	…was mostly unavailable when the team wanted to work	**.919**	.092	-.029	-.066	.737
SLB16	…was largely not present when the team held discussions	**.781**	.096	-.033	.099	.753
SLB1	… had trouble attending team meetings	**.743**	-.093	-.011	-.056	.481
SLB14	…did not respond quickly when using messenger app or email	**.562**	-.015	-.039	.152	.530
SLB18	…spent more time on their devices than participating in the team meetings	-.090	**.979**	-.025	.013	.895
SLB19	…was distracted by their devices during the team meetings	-.004	**.970**	-.015	-.023	.898
SLB17	…did other work on their devices (laptop, cell phone, tablet) during the team meetings	.079	**.769**	.005	.009	.636
SLB10	… did poor quality work	-.073	.039	**-.999**	-.053	.862
SLB9	… did a poor job of the work they were assigned	-.013	.008	**-.906**	.005	.859
SLB8	… had trouble completing team-related work	.113	.003	**-.630**	.023	.496
SLB4	… did not contribute their share to the assignment	.157	-.010	**-.500**	.164	.534
SLB2	… did not participate in generating new ideas	-.056	-.117	-.082	**.844**	.538
SLB3	… was mostly silent during team discussions	.118	.079	.121	**.602**	.407
SLB7	… contributed poorly to the team discussions	-.018	.062	-.149	**.546**	.426
Eigenvalues		5.221	2.402	1.646	1.203	
Individual total variance %		37.29	17.16	11.76	8.6	
Cumulative total variance %		37.29	54.45	66.2	74.8	

Notes. *n* = 111 after listwise deletion of missing data. Principal axis factoring with direct oblimin rotation. Significant loadings are presented in boldface. SLB = Social loafing Behaviour.

Factor one related to unavailability when setting and attending teamwork and meetings and was labelled *unavailability*. Factor two related to lack of participation when organising work using technology and was labelled *tech loafing*. Factor three related to the contribution of poor work quality and slacking off and was labelled *poor work quality*. Factor four related to the poor contribution to the group discussions and was labelled as *discussion non-contribution*. The items relating to the distractive and disruptive behaviour were excluded owing to significant cross-loadings as well as insufficient factor loadings.

This pattern of results indicated that Hypotheses 1a-d was supported while 1e was not supported. Four components of SLB were identified: (a) unavailability, (b) tech loafing, (c) poor work quality and (d) discussion non-contribution. Distractive and disruptive behaviour was eliminated as a dimension of social loafing.

Dimensionality of social loafing consequences.

The 8 items measuring the consequences of social loafing (n = 107) were subjected to an EFA using principal axis factoring. The suitability of the data were assessed. The correlation matrix revealed the presence of several correlations above .3. The KMO value was .75 and Bartlett's test of sphericity was statistically significant (χ^2 (28) = 351.67; p < .001). The factorability of R was supported.

Two distinct factors emerged from the EFA. Factor one measured the *sucker effect*. It had an eigenvalue of 3.058 and accounted for 38.23% of the variance. Factor two related to *social compensation*. It had an eigenvalue of 2.25 and a variance of 28.12%. As such, a dual factor structure was retained which explained a cumulative variance of 66.35%. These findings support the notion that social compensation and the sucker effect are two distinct responses to social loafing. The sucker effect and social compensation were each considered unidimensional scales.

Reliability analysis.

Cronbach's alpha (α) was used to assess the internal consistency of all the scales. An alpha value above .7 was considered acceptable while values above .8 were preferable (Field, 2014). All sub-scales were constituted by at least 3 items in order to retain validity. No items were deleted from the reliability analyses conducted. All scales and sub-scales had acceptable reliability values (α >.73). Many had an alpha value above .8, demonstrating high internal consistency reliability (Field, 2014; see Appendix F for a detailed write-up). As such, all

scales and sub-scales reflected adequate reliability and were considered appropriate to use within further data analysis procedures (Tabachnick & Fidell, 2014).

Descriptive statistics.

This section provides insight into the student perspective of social loafing, what may contribute to its occurrence and how students respond to it as an individual or a team. Composite scores were created by computing the mean of the items with a primary loading on each factor that emerged from the EFAs. Descriptive and distribution statistics for all variables that were included in analysis are available in Table A10.

Shown in Table 6, over half the participants (54.15%) noted that there was at least one social loafer within their team (*n* = 229). Less than four percent of participants reported that they were social loafers.

Table 6

Descriptive Statistics: Prevalence of Social Loafing

Item	Category	%	N
Experienced social loafing	Yes	54.15	124
	No	45.85	105
Participant a social loafer	Yes	3.93	9
	No	96.07	220

Note. *n* = 229. Responses on a team level were not mutually exclusive.

Table A11 presents additional team characteristics of the sample (see Appendix A). Students noted teams to be diverse (36.06%) or very diverse (26.20%). Half the sample did not have a formal leader (50.29%) and almost half (48.57%) of the sample were neutral about their leader's effectiveness.

The participant's description of the social loafer's socio-demographic variables (*n* = 124) are reported in Table A12. The social loafer was most frequently described as an average student (68.91%), English speaking (54.54%), Black (42.15%) and male (66.94%).

Reaction to loafing and response of the social loafer.

Table 7 presents the reaction of the team to the perceived social loafer as well as how the social loafer responded to these actions (or inaction). The most frequent response as a team and as an individual was to do nothing. Second to this, both the team and the individual attempted to engage with the social loafer. Indirect disapproval was more common than directly confronting the social loafer. Infrequently the team attempted some type of conflict

resolution process or spoke to the lecturer about the problem they were experiencing. In some cases, the social loafer did contribute more because of the individuals or the team's interventions. More often the loafer did not change their behaviour in response to the team or individual. As a result of the individual or the team's actions, the loafer contributed less, became defensive and withdrew further from the team.

Table 7

Checklist: Response to Social Loafing and Loafer's Action

Checklist Item	Individual		Team	
	Frequency	%	Frequency	%
Response to social loafing				
Did nothing	46	37.10	52	41.94
Left the team	0	0		
Talked to the lecturer about the problem we were having			11	8.87
Ignored them	11	8.87	10	8.06
Tried to engage them	41	33.06	41	33.06
Confronted them and asked them to change their behaviour	12	9.68	16	12.90
Instead of confrontation, found indirect ways of letting them know that we did not approve of their behaviour	25	20.16	19	15.32
Kicked the member out the team			0	0
Applied some type of conflict resolution process			11	8.87
Social loafer action after the response				
The loafer contributed more	23	18.55	20	16.13
The loafer contributed less	5	4.03	4	3.23
The social loafing continued as before	68	54.84	71	57.26
The Team/individual had to work harder	26	20.97	25	20.16
The loafer became defensive and withdrew further	6	4.84	10	8.06

Note. n = 124. Percent calculated from those who perceived there was a social loafer.

Correlation analyses.

Pearson's product moment correlation (Pearson's r) was used to examine the bivariate relationships between variables. Cohen (1988) recommendations were used to analyse the correlation coefficients. A coefficient of .5 was considered a large effect, .3 was considered a medium effect and .1 was considered a weak effect.

Correlation between social loafing behaviour, antecedents and consequences.

The composite variables mean (*M*), standard deviation (*SD*), correlation coefficients, significance and reliability are shown in Table 8. *Unavailability* (*M* = 3.45, *SD* = 1.02), *poor work quality* (*M* = 3.51, *SD* = .95) and *discussion non-contribution* (*M* = 3.58, *SD* = .87) were all above the scale mid-point. These behaviours were taking place in the present sample, falling between *sometimes* and *often*. Tech loafing's mean (*M* = 2.56, *SD* = 1.22) fell below the mid-point value of 3, indicating that on average this behaviour occurred between *rarely* and *sometimes*. It was not as frequent as the other SLBs. *Loafer apathy* had a relatively high mean (*M* = 3.51, *SD* = .80) in comparison to *poor communication skills* (*M* = 2.68, *SD* = 1.02). Loafer apathy was the antecedent that occurred more frequently.

Table 8

Mean, Standard Deviation, Inter-Correlations and Reliability of Composite Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1 Unavailability	3.45	1.02	(.85)							
2 Tech loafing	2.56	1.22	.21*	(.93)						
3 Poor work quality	3.51	.95	.47***	.23*	(.87)					
4 Discussion non-contribution	3.58	.87	.47***	.18	.47***	(.73)				
5 Loafer apathy	3.51	.80	.44***	.29**	.61**	.50***	(.88)			
6 Poor communication skills	2.68	1.02	.15	.16	-.05	.16	.09	(.87)		
7 Social compensation	3.63	.81	.41***	.24*	.68***	.23*	.54***	0.04	(.88)	
8 Sucker effect	2.53	.95	.1	-.06	.03	.08	.18	.25**	-.02	(.73)

Note. Values are Pearson *r*. *M* = scale mean. *SD* = scale standard deviation. Cronbach alpha values are in parentheses on the diagonal. Same size ranging from n = 105 to n = 116 after pairwise exclusion.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Table 8 indicates that *social compensation* exhibited significant correlations with each SLB facet as well as *loafer apathy*, the strongest being a large, positive, significant correlation with *poor work quality* ($r = .68$, $p < .001$, $n = 107$). As *poor work quality* increased, *social compensation* increased. The *sucker effect* had only one significant with *poor communication skills* ($r = .25$, $p = .01$, $n = 105$). This medium positive relationship indicated that as the loafer was perceived as having poorer communication skills, others in the team were more inclined to loaf. The mean of the *sucker effect* (*M* = 2.53, *SD* = .95) fell below its scale midpoint, which indicated that it was not a common response to perceived social loafing in the current sample of students. *Social compensation* fell well above the mid-

point (M = 3.63, SD = .81), which demonstrated that students engaged in *social compensation* and that it was a more common response to perceived social loafing than the *sucker effect*. An insignificant relationship very close to zero (r = -.02, p = .863, n = 107) confirmed that that Hypothesis 6 was not supported, *social compensation* and the *sucker effect* were not negatively related.

Correlation between social loafing behaviour and team composition.

Team composition variables (that consisted of interval level) data were tested for their bivariate relationship with the SLBs, antecedents and consequences (see Table A13). S*ocial loafer academic ability* shared medium, negative, significant correlations with *unavailability* (r = -.26, p = .005, n = 115), *poor work quality* (r = -.3, p < .001, n = 116) and *discussion non-contribution* (r = -.35, p < .001, n = 116) as well as *loafer apathy* (r = -.36, p < .001, n = 112). This indicated that as *social loafer academic ability* increased, three SLBs and *loafer apathy* decreased. *Team diversity* shared a medium negative, significant relationship with the SLB of *unavailability* (r = -.27, p = .004, n = 116). As *team diversity* increased, *unavailability* decreased. *Leadership effectiveness* shared a weak, negative, significant relationship with the SLB of *tech loafing* (r = -.19, p = .046, n = 109). As *leadership effectiveness* increased, *tech loafing* decreased.

Association between team composition and perceived social loafing.

Team structural and demographic variables (that consisted of nominal level data) were examined for their association with perceived social loafing. Chi-square tests were conducted when both variables were categorical (Tredoux & Durrheim, 2013). For each of these analyses, the assumption of independence of counts was met. If the assumption of expected frequencies was violated, the likelihood ratio was used.

The presence of formal leadership was the only variable that shared a significant association with perceived social loafing. ($X^2(1) = 4.87$, p = .027) at the .05 significance level. The remaining chi-square tests performed on the participant's (categorical) socio-demographic and structural descriptive variables were insignificant (see Table A14).

Regression analyses.

Several standard multiple regression analyses were performed, using the forced entry method, to evaluate Hypotheses 2a-d, 3a-d, 7a-d, 8a-d and 9 (and the additional moderation analysis between *loafer apathy* and *social compensation*). The regression assumptions were assessed after the final regression analysis.

Antecedents to social loafing behaviour.

Four standard multiple regression analyses were conducted to determine whether the antecedents of *loafer apathy* and *poor communication skills* (independent variables) would predict the four SLBs of *unavailability*, *tech loafing*, *poor work quality* and *discussion non-contribution*. Table 9 presents the four regression models and specifies the standardised regression coefficients (β), their significance, the confidence intervals as well as R^2 and adjusted R^2.

Tech loafing was predicted to the least extent by the model as only 9% of the variance ($R^2 = .09$, $F_{2, 107} = 12.8$, $p < .001$) was described. *Poor work quality* had the greatest amount of variance explained by the model ($R^2 = .43$, $F_{2, 108} = 18.25$, $p < .001$) as 43% of the variance was a result of the predictors. A quarter of the variance ($R^2 = .26$, $F_{2, 107} = 11.01$, $p < .001$) in *discussion non-contribution* was explained by the model, whereas only 18% ($R^2 = .18$, $F_{2, 108} = 12.8$, $p < .001$) of the variance in *unavailability* was explained by the model.

Table 9

Regression Analysis: Antecedents Predicting the Four SLBs

Independent Variables	Unavailability		Tech Loafing		Poor work quality		Discussion non-contribution	
	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Loafer apathy	.41***	[.32; .76]	.25**	[.10; .67]	.65***	[.62; .98]	.49***	[.36; .73]
Poor communication skills	.11	[-.05; .28]	.14	[-.06; .38]	-.11	[-.2; -.07]	.11	[-.05; .23]
$\boldsymbol{R^2}$	.19***		.09**		.43***		.26***	
Adjusted $\boldsymbol{R^2}$	.18		.07		.41		.25	

Note. n = 110 to 111 with listwise exclusion. CI = confidence interval. Post-hoc power of models ranged from 82%-100%.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Hypotheses 2a-d was supported as *loafer apathy* explained significant variance in the four components of SLB. *Loafer apathy* was a significant predictor of the four SLBs: *unavailability* ($\beta = .41$, $t = 4.77$, $p < .001$), *tech loafing* ($\beta = .25$, $t = 2.70$, $p = .008$), *poor work quality* ($\beta = .65$, $t = 8.88$, $p < .001$) and *discussion non-contribution* ($\beta = .49$, $t = 5.87$, $p < .001$). Hypotheses 3a-d were not supported as *poor communication skills* did not predict significant variance in the four SLBs.

Consequences of social loafing behaviour.

Sucker effect. A standard multiple linear regression (n = 104) was performed to test whether the four SLBs would explain significant variance in the *sucker effect*. The model was insignificant (R^2 = .02 $F_{4, 99}$ = 45, p = .774). The variance in the *sucker effect* did not differ significantly from zero as a result of the SLBs (post-hoc power 16%). Hypothesis 7 was not supported. The four SLBs were not statistically significant predictors of variance in the *sucker effect*.

Social Compensation. A hierarchal multiple regression was performed to investigate the predictive relationship between the SLBs and *social compensation* over and above loafer characteristics (gender, race, home language) as well as *loafer apathy*.

An initial hierarchal regression analysis (n = 79) indicated that when entered in Step 1, the demographic control variables did not significantly contribute to the model (R^2 = .04, $F_{5, 73}$ = .55, p = .739). As the inclusion of these variables reduced the number of cases in the analysis they were excluded and the hierarchal regression analysis was rerun. Table 10 presents the final regression model and displays the standardised regression coefficients (β), their significant p-values, the confidence intervals in Step 2, as well as R^2, adjusted R^2, and change in R^2. After each step, R^2 was significantly different from zero.

Table 10

Hierarchical Regression Analysis: Loafer Apathy and the Four SLBs Predicting Social Compensation.

Independent Variables		Social Compensation	
	Model 1	Model 2	
	β	β	95% CI
Step 1: Antecedents		.	
Loafer apathy	.53***	.20*	[.01; .39]
Step 2: SLBs			
Unavailability		.14	[-.02; .24]
Tech loafing		.04	[-.07; .12]
Poor work quality		.57***	[.32; .64]
Discussion non-contribution		-.20*	[-.35; -.03]
R^2	.28	.52	
Adjusted R^2	.27	.49	
ΔR^2	.28***	.24***	

Note. n = 104 after case wise deletion. Post-hoc power of model = 100% (step 2). SLB = Social loafing behaviour.
*p < .05, ** p < .01, *** p < .001.

The final hierarchal regression model (n = 104) entered *loafer apathy* in step one. *Loafer apathy* was entered, as the correlation results identified it was the only antecedent related to *social compensation*. In step one, *loafer apathy* explained 28% of the statistically significant variance in *social compensation* (R^2 = .28, $F_{1, 102}$ = 39.79, p < .001). Step two entered the SLBs (*unavailability, tech loafing, poor work quality* and *discussion non-contribution*). The final model explained 52% of the variance in *social compensation* (R^2 = .52, $F_{5, 98}$ = 12.06, p < .001). Twenty-three percent of the variance (ΔR^2 = .24, $F_{4, 98}$ = 12.06, p < .001) in step two was explained by the SLBs above and beyond the antecedent of *loafer apathy*. This pattern of results suggests that the SLBs explain almost a quarter of the variability in *social compensation* (Pallant, 2016).

In the final model, *loafer apathy* prediced significant unique variance in social cmpensation (β = .2, 95% CI [.01; .64], t = 2.12, p = .036). *Poor work quality* and *discussion non-contribution* were the only statistically significant SLBs that predicted *social compensation. Poor work quality* recorded the highest significant beta value (β = .57, 95% CI [.32; .64], t = 6.04, p < .001), the confidence interval did not include zero and so Hypothesis 8c was supported. The beta-value was positive meaning that as *poor work quality* increased, *social compensation* increased. The second highest beta value *discussion non-contribution* (β = -.20, 95% CI [-.35; -.03], t = -2.31, p = .023), the confidence interval did not include zero and so Hypothesis 8d was supported. The beta-value was negative meaning that as *discussion non-contribution* increased, *social compensation* decreased. *Tech loafing* and *unavailability* did not explain statistically significant variance in *social compensation*. Therefore, Hypotheses 8a and 8b were not supported.

Leadership effectiveness moderation effect.

Hayes (2018) PROCESS macro was employed to investigate the hypothesized moderation of the relationship between *loafer apathy* and the four SLBs. *Leadership effectiveness* significantly moderated *loafer apathy* and its relationship with *tech loafing*. The remaining SLBs were not moderated by *leadership effectiveness* (see Appendix G). *Leadership effectiveness* was also tested for its potential to moderate the relationship between *loafer apathy* and *social compensation* given *loafer apathy* introduced unique significant variance to the model predicting *social compensation*. The moderation results have been presented in the table format recommended by Field (2014).

Leadership effectiveness moderating loafer apathy and tech loafing.

The linear regression between *loafer apathy* and *tech loafing* was significant (R^2 =.15, $F_{3, 102}$ = 6.2, p < .001). Table 11 indicates that a significant interaction was apparent between *leadership effectiveness* and *loafer apathy* (b = .41, 95% CI [.11; .71], t = 2.67, p = .009), confirmed as the confidence intervals did not include zero. *Leadership effectiveness* moderated the relationship between *loafer apathy* and *tech loafing*. Hypothesis 9 was supported. To probe this effect, Table 11 in conjunction with the model in Figure 3 was examined.

Table 11

Moderation Analysis: Leadership Effectiveness Moderating the Relationship between Loafer Apathy and Tech Loafing.

Independent Variables	*b*	*SE B*	*t*	*p*
Constant	2.52 [2.31; 2.74]	.19	23.27	$p < .001^{***}$
Loafer apathy (centred)	.38 [.1; .67]	.14	2.67	$p = .009^{**}$
Leader effectiveness (centred)	-.23 [-4.49; .02]	.12	-1.83	$p = .071$
Loafer apathy x Leadership Effectiveness (centred)	.41 [.11; .71]	.15	2.67	$p = .009^{**}$

Note. R^2 =.15. n = 106 after listwise deletion. b = unstandardized coefficient. Brackets [lower; upper] contain the confidence intervals. Post-hoc power = 96%.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

The strength of the relationship between *loafer apathy* and *tech loafing* was stronger when *leadership effectiveness* was high as opposed to low. *Loafer apathy* was significantly related to *tech loafing* when *leadership effectiveness* was one standard deviation above the mean (b = .73, 95% CI [.43; 1.12], t = 3.74, p < .001) and at the mean (b = .38, 95% CI [.1; .67], t = 2.66, p = .009), but not when *leadership effectiveness* one standard deviation below the mean (b = -.03, 95% CI [-.35; .42], t = 17, p = .86) as the confidence interval included zero. The Johnson-Neyman technique revealed that the relationship between *loafer apathy* and *tech loafing* was significant for all values of *leadership effectiveness* above -.22 (b = .29, 95% CI [.00; .58], t = 1.98, p = .05) standard deviations below the mean, but not significant below -.22.

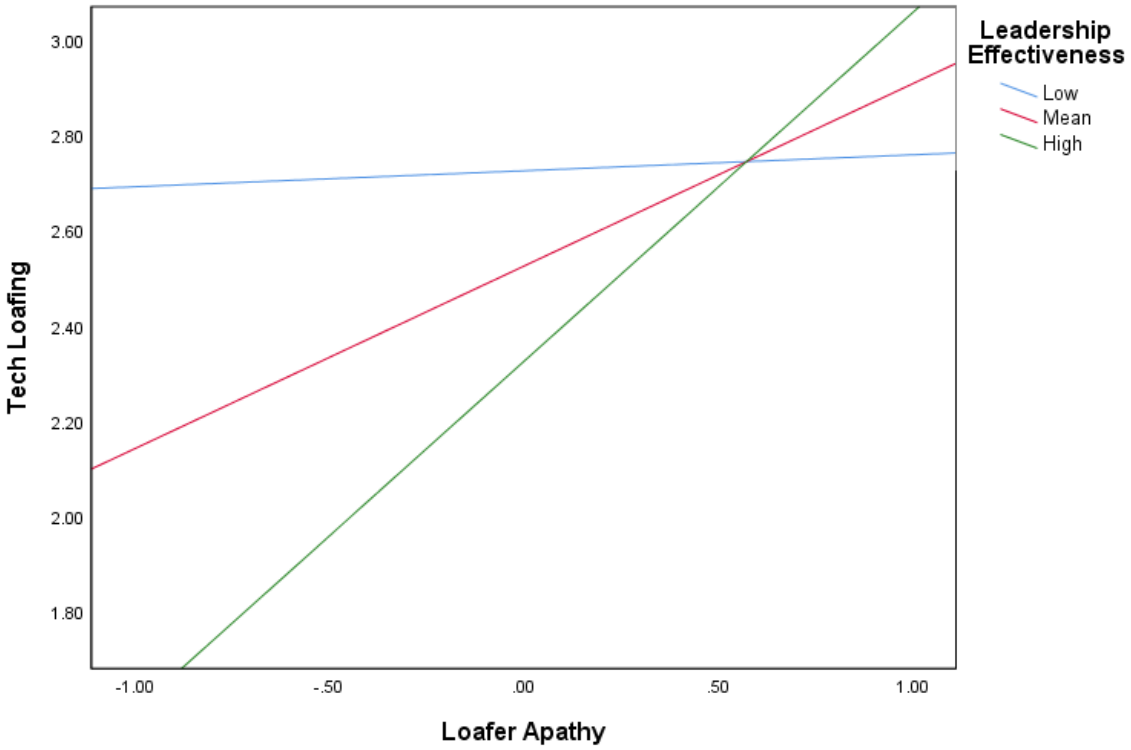

Figure 3 Moderation analysis: Leadership effectiveness moderating the relationship between *loafer apathy* and tech loafing.

Leadership effectiveness moderating loafer apathy and social compensation.

The linear regression between *loafer apathy* and *social compensation* was significant (R^2 = .29, $F_{3, 98}$ = 13.15, p < .001). Table 12 indicated that a significant interaction was apparent between *leadership effectiveness* and *loafer apathy*, confirmed as the confidence intervals did not include zero. *Leadership effectiveness* moderated the relationship between *loafer apathy* and *social compensation*. To probe this effect, Figure 4 was examined in conjunction with the model presented in Table 12.

The strength of the relationship between *loafer apathy* and *social compensation* was stronger when *leadership effectiveness* was high as opposed to low. *Loafer apathy* was significantly related to *social compensation* when *leadership effectiveness* one standard deviation above the mean (b = .72, 95% CI [.48; .95], t = 6.12, p < .001) and when *leadership effectiveness* was one standard deviation below the mean, (b = .23, 95% CI [.001; .47], t = 2, p = .05) as the confidence intervals did not include zero. The Johnson-Neyman technique revealed that the relationship between *loafer apathy* and *social compensation* was significant for all values of *leadership effectiveness* above -.87 (b = .23, 95% CI [.00; .47], t = 1.98, p = .05) standard deviations below the mean, but not significant below -.87.

Table 12

Moderation analysis: Leadership effectiveness moderating the relationship between loafer apathy and social compensation

Independent Variables	*b*	*SE B*	*t*	*p*
Constant	3.64 [3.51; 3.77]	.07	55.40	$p < .001^{***}$
Loafer apathy (centred)	.47 [.30; .65]	.09	5.48	$p < .001^{***}$
Leadership effectiveness (centred)	.002 [-.15; .98]	.08	.028	$p = .978$
Loafer apathy x Leadership Effectiveness (centred)	.28 [.1; .46]	.09	3.05	$p = .003^{**}$

Note. $R^2 = .29$. $n = 102$ after listwise deletion. *b* = unstandardized coefficient. Brackets [lower; upper] contain the confidence intervals. Post-hoc power = 100%.
$^{*}p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$.

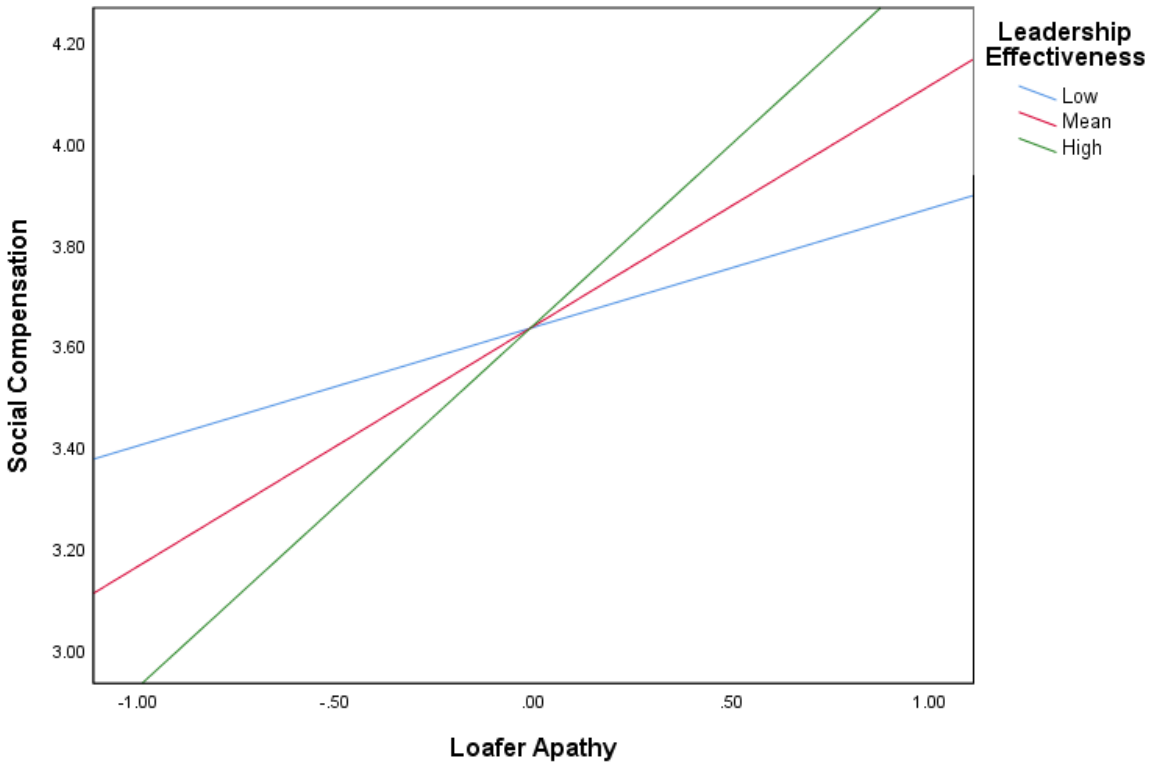

Figure 4. Moderation analysis: Leadership effectiveness moderating the relationship between loafer apathy and social compensation.

Regression assumptions.

Several standard multiple regression analyses were performed, using the forced entry method, to evaluate Hypotheses 2a-d, 3a-d, 7a-d, 8a-d, 9 (and the additional moderation analysis between *loafer apathy* and *social compensation*). The suitability of the data were evaluated to ensure that the appropriate assumptions were met. The sample size ranged between 104 and 111 participants across the regression analyses. The sample size was adequate for the standard and hierarchal multiple regressions, as there were more than 15 participants to each independent variable (5 was the maximum number of independent variables used: Field, 2014). The regression analyses were subjected to a post hoc power analysis using G*Power. Power of 80% or more is considered acceptable to say with certainty that the hypotheses were correctly supported or unsupported (Field, 2014). Excluding the regression predicting the *sucker effect* (power of 16%), the remaining regression analyses demonstrated adequate statistical power (≥82%; see Appendix H).

The presence of multivariate outliers was assessed using Mahalanobis distances. The critical chi-square value relevant for the models with 2 independent variables (IVs) was 13.82, 4 IVs had a value of 18.47 while the model with 8 IVs had a value of 26.13 (Pearson & Hartley, 1958 as cited in Tabachnick & Fidell, 2014). The regressions performed did not contain Mahalanobis distances exceeding these values. Examination of each respective scatterplot of standardised residual and standardised predicted value were examined. Residual values greater than 3.3 (or less than -3.3) were removed if they influenced the results. Only outliers and influential cases that created an association were removed (Tabachnick & Fidell, 2014). One outlier with a standardised residual almost exceeding 3.3 (3.27) was excluded from the regression analysis of the SLB antecedents and *poor work quality*. The regression analyses did not display multicollinearity, as the tolerance values ranged between .69 and .99. Only values less than .1 are considered problematic (Tabachnick & Fidell, 2014). The absence of multicollinearity was confirmed as the variance inflation factors ranged between 1.1 and 1.45, and fell well below 10, the value identified as problematic (Tabachnick & Fidell, 2014).

The assumption of linearity was met as curvilinear relationships were not apparent in the respective scatterplot of standardised residuals (see Figure D5- Figure D10). Normality was examined using P-P plots, where points should fall near to the diagonal line representing normality (Tabachnick & Fidell, 2014). The assumption was considered acceptable, despite slight deviations in a few regression analyses P-P plots (see Figure D11-Figure D16). The

assumption of homoscedasticity was supported by examining the scatterplots of standardised residuals (see Figure D5- Figure D10). Residuals should be evenly distributed in a roughly rectangular manner across the regression line. The assumption concerning the independence of errors was met, as the range of Durban-Watson statistics was 1.724-2.45, which fell within the acceptable range of 1 and 3 (Tabachnick & Fidell, 2014). The assumptions of the regression analyses were met; the results were not considered biased by unmet assumptions.

Team performance.

Pearson correlations were performed to further explore whether team performance was related to the four SLBs (*unavailability*, *tech loafing*, *poor work quality* and *discussion non-contribution*), the antecedents (*loafer apathy* and *poor communication skill*) as well as the responses (*social compensation* and *the sucker effect*). Table 13 presents the correlations of team performance and composite variables, sample size (*n*), standard error (*SE*), effect sizes (*r*) and associated p-values.

Table 13

Correlation Analysis: Relationship between Team Performance and Composite Variables.

Variables	*r*	*SE*	Sig	*n*
1 Unavailability	-.19	.14	.236	43
2 Tech loafing	-.28	.15	.071	42
3 Poor work quality	.25	.11	.101	43
4 Discussion non-Contribution	-.09	.19	.574	43
5 Loafer apathy	.03	.14	.854	41
6 Poor communication skill	-.37*	.15	.021	39
7 Social compensation	.18	.13	.297	37
8 Sucker effect	-.2	.15	.245	37

Note. SL = social loafer. *n* determined after listwise deletion. Power ≤ 67.8%.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

The only composite variable that shared a significant relationship with team performance was *poor communication skills* ($r = -.37$, $p = .021$, $n = 39$). *Team performance* and *poor communication skills* shared a moderate negative relationship. As the social loafer's communication skills were perceived as better, *team performance* increased. Hypotheses 10a-d were not supported as the SLBs did not share a negative relationship with *team performance*. There were an insufficient number of cases to provide adequate power for the correlations (≤ 67.82%). It cannot be said with certainty that Hypotheses 10a-d were not supported.

Summary of results.

In summary, Hypotheses 1a-d was supported, as students perceived the SLBs to consist of (a) unavailability (b) tech loafing, (c) poor work quality and (d) discussion non-contribution. Hypothesis 1e was not supported as *distractive and disruptive behaviour* was excluded during the EFA.

Multiple regression analyses found that *loafer apathy* was a significant predictor of the *unavailability, tech loafing, poor work quality* and *discussion non-contribution,* which supported Hypotheses 2a-d. *Poor communication skills* did not significantly predict the SLBs and therefore Hypotheses 3a-d was not supported. *Social compensation* and the *sucker effect* were unrelated, contrary to Hypothesis 6, which proposed they would share a significant negative relationship. A hierarchal multiple regressing analysis found that *social compensation* was significantly predicted by *poor work quality*, *discussion non-contribution* (supporting Hypotheses 7c and 7d) as well as *loafer apathy*. The multiple regression model that examined the predictive relationship between the four SLBs and the *sucker effect* were insignificant and therefore Hypotheses 8a-e were not supported.

PROCESS was used to examine *leadership effectiveness* as a moderator of the relationship between *loafer apathy* and the SLBs. *Leadership effectiveness* was found to moderate the relationship between *loafer apathy* and tech loafing, supporting Hypothesis 9b (Hypotheses 9a, 9c and 9d were not supported). While not originally hypothesised, *leadership effectiveness* moderated the relationship between *loafer apathy* and *social compensation*.

Hypotheses 10a-d were unsupported. *Team performance* did not share a significant relationship with the fours SLBs. Although not hypothesised, *team performance* shared a medium significant negative correlation with *poor communication skills*.

Discussion

Student Social Loafing

The aim of this research was to examine student perception of social loafing in South African university teams. It used a multi-dimensional conceptualisation of social loafing behaviour and a number of structural control variables not seen in previous research. Despite students receiving instruction about effective teamwork and social loafing, social loafing was perceived as taking place. The findings provide a more nuanced understanding of student social loafing, its causes and consequences. A specific contribution of the study was the identification of the inappropriate use of technology during team discussions to be a SLB. In addition, it was found that teams will compensate for apathetic loafers and their poor work quality but would reduce their compensation for those who do not contribute to the team's discussions. Teams with more effective leaders were also found to perceive increased loafer apathy, which also lead to greater amounts of tech loafing and social compensation. This chapter will review and discuss the main findings in relation to the hypotheses proposed in Chapter 1. Practical implications and suggestions for future research are presented.

This study contributes to the under-researched student perspective of social loafing literature. It establishes its presence within diverse teams and reinforces the relevance of a multi-dimensional conceptualisation of social loafing in student contexts. The study also finds that social compensation (rather than the sucker effect) is a response within a South African student teams.

Prevalence of Student Social Loafing

Social loafing was a prevalent phenomenon, with over half the participants (54%) reporting that they had experienced social loafing during the teamwork component of BUS3039. Prior to this study, South African student perception of social loafing had not been quantitatively examined (Pieterse & Thompson, 2010).

The various studies that have researched social loafing in undergraduate business classrooms have indicated an even greater prevalence of social loafing within a university, than what is reported in the present results (Aggarwal & O'Brien, 2008; Dommeyer, 2007; Schippers, 2014; Stark, Shaw, & Duffy, 2007). Jassawalla et al. (2009) reported that every student participant had a teamwork experience where a social loafer was present. An important difference between their study and the present research lies in the sample. In their research, students may have had a number of team experiences to draw from whereas the

students examined in this research could only refer to one course. Jassawalla et al. (2009) did not have the same number of structural control variables seen in the current study: group size, group formation, peer evaluation. Notably, students in the present study had prior instruction concerning effective teamwork and social loafing. The prevalence of social loafing in this research may not have been as large as previous findings but there is a greater probability that the variance in social loafing is a result of the antecedents examined.

In their study, Stark et al. (2007) noted that participants were more willing to admit to their own social loafing than to a group members behaviour. This was not the case in the present research as only four participants reported themselves as social loafers. It is still plausible that individuals (despite remaining anonymous) did not want to describe themselves or even their team members as social loafers, leading to an underreported amount of social loafing. As the survey was optional, it is also reasonable to think that students who had experienced social loafing were using the survey to share their experience, resulting in less self-reported social loafing and a greater amount of perceived social loafing.

Structural factors and social loafing.

Several structural factors were controlled for, placing the finding of the present study within a specific teamwork environment.

Team size and project scope. The results establish that social loafing will take place in South African student teams that have five members. Each team was given the same project, preventing a difference in project scope from influencing the results (Aggarwal & O'Brien, 2008). This serves as a replication of research examining university teamwork and social loafing in other contexts (Lam, 2015; Price et al., 2006).

Team Formation. The present research demonstrates that teams formed using a random assignment method will experience social loafing (Aggarwal & O'Brien, 2008; Lam, 2015). Team formation is thought to influence social loafing through its relationships with other variables. Pieterse and Thompson (2010) found that when students were given the opportunity to self-select into a team, they would group with academically aligned teams, reducing the amount of social loafing. The results of the present study indicate that the loafers' academic ability shares a negative relationship with three of the SLBs. This suggests that weaker students are considered social loafers or social loafers are considered weaker students. Although random assignment has been linked to negative team outcomes (Bacon,

Stewart, & Silver, 1999), additional research is required to determine whether it is inferior to self-selection or intentional assignment.

Peer evaluation. Notably, peer evaluations were not an integrated part of the teamwork component of this course. Both seminal work and recent literature have illustrated the negative relationship between one's propensity to loaf and identifiability (Aggarwal & O'Brien, 2008; Harkins & Petty, 1982; Price et al., 2006). Students could add peer evaluations into their contracts, but whether peer evaluations were included or whether these contracts were taken seriously (as they were a graded component of the course) is unknown. A collective grade in conjunction with a lack of peer evaluations has likely led to limited individual identifiability. The text analysis indicated that students believe a lack of identifiability to be a reason that social loafing tends to occur in student teams. Aggarwal and O'Brien's (2008) findings suggest that the limited identifiability within the teams would lead to an increase of perceived social loafing, providing insight as to why social loafing was evident in the present sample.

Duration of Group work. The present study found social loafing to take place in teams that work together for an entire semester (12 weeks). Tomcho and Foels (2012) demonstrated that groups operating over half a semester (or longer) experience a greater amount of deviant group member but not social loafing specifically. They attribute the increase of deviant behaviour to increased comfort levels with group members, leading to a reduced focus on the task at hand, which may also account for the presence of social loafing in the teams investigated. It is also plausible that teams operating for a longer duration enable students a greater amount of opportunity to identify behaviour as social loafing (Boren & Morales, 2018).

Knowledge of effective group work. Students in the sample received coursework instruction about team dynamics (including social loafing). In addition, material concerning effective teamwork and conflict management was assessed as components of the course. Despite this, over half the participants still perceived there to be at least one social loafer in their team. This stands in contrast to the arguments made by Aggarwal and O'Brien (2008) and Jassawalla et al. (2009), who both suggest that instruction pertaining to group dynamics and effective team management techniques during class time could prevent social loafing in student teams. In response to this, the present study established that social loafing will take place when students receive instruction about team dynamics. It calls on forthcoming

research to compare students that receive instruction to those that do not to find whether a difference in student social loafing exists between the two conditions.

Team Composition. Team composition was not directly determined. A single item was used to measure the student's perception of team diversity. They described their teams as diverse (36.06%) or very diverse (26.20%). Half of the participants were White (50.5%), male (50.70%) and spoke English as their home language (78%). This is similar to the demographic statistics of the class population that received the survey. In relation to the general social loafing literature, Simms and Nichols (2014) identified that wholly male or female samples were a limitation. From this standpoint, the teams in the present study are considered to be diverse.

Price et al. (2006) found that relational dissimilarity (differences in age, race, marital status and year of study) may increase the perception that members' contributions are less worthwhile and more dispensable. Price et al. (2006) noted that members on the demographic boundaries of a group may feel marginalised during group interactions and subsequently contribute less than what they should (Mehra, Kilduff, & Brass, 1998). Meyer, Schermuly and Kauffeld (2016) demonstrated that social loafing was more common in teams that experienced subgroup divisions based on certain attributes (they refer to this as fault lines), such as race. In contrast to the findings of Price et al. (2006), those forming part of the larger subgroup were more likely to social loaf.

In the present study, diversity shared a weak negative relationship with the *unavailability* SLB, indicating that as diversity increased, social loafers were perceived as less unavailable. Diversity was not significantly related to other SLBs, antecedents or consequences. Although the text analysis highlighted that the multicultural nature of South African student teams could lead to the occurrence of social loafing through a variety of processes (such as differing access to resources and subsequent ability to contribute work in a timely manner), the present study was limited in its investigation of this variable. Team composition and multicultural differences that arise from diversity are important considerations for future research investigating South African student teams.

Nature of Student Social Loafing Behaviour

Four distinct social loafing factors were retained from the EFA on the 14 item SLB measure. Hypotheses 1a-d is supported, students will perceive SLB to consist of (a) unavailability, (b) tech loafing, (c) poor work quality and (d) discussion non-contribution.

Hypothesis 1e was not supported as distractive and disruptive behaviour did not emerge as a distinct SLB.

Tech loafing. Using technology at inappropriate times (i.e. during team meetings), emerged as a distinct student SLB. Technology is intended to facilitate learning within the university context, and cyberloafing during lecture time has been an issue that lecturers grapple with (Ragan et al., 2014; Taneja et al. 2015). The measurement of tech loafing as an SLB may account for why distractive and disruptive behaviour did not load distinctly in the EFA, as social loafers did not disrupt their team members when loafing, rather they were preoccupied with technology. It is possible that using items of greater detail concerning distraction replaced distractive and disruptive behaviour within the present research (Jassawalla et al., 2008, 2009).

Even though tech loafing was not a frequent behaviour (perceived as taking place between *rarely* and *sometimes*) the results indicate that students perceive the inappropriate use of technology during face-to-face team meetings to be an SLB. The lower occurrence of tech loafing in comparison to the other three SLBs (poor work quality, discussion non-contribution and unavailability) may be owing to the item wording. The item specified the participant could only refer to in-person team meetings, which may have limited the frequency of when this behaviour could be identified. The present results contribute to the literature by identifying an unintended consequence of using technology to facilitate team-based work; it provides a distraction that is viewed by team members as social loafing (Suleiman & Watson, 2008; Taneja et al., 2015).

Unavailability. Unavailability when organising and attending team discussions emerged as a distinct SLB from the EFA. Non-responsiveness on social media constituted one component of this behaviour, which indicates that student attribute social loafing to behaviour that occurs outside of face-to-face meetings and beyond the poor contribution of work. On average, social loafers were rated as engaging in unavailability between *sometimes* and *often*. These findings support the notion that students do not identify social loafers solely on the basis of reduced contribution (George, 1992; Liden et al., 2004; Simms & Nichols, 2014). Students perceive lack of attendance, not making time for teamwork and not responding to the team on social media to be an SLB (Boren & Morales, 2018).

Poor work quality. Poor work quality emerged as a distinct SLB and describes the behaviour of contributing unsatisfactory work to the team. On average, social loafers were

rated as engaging in poor work quality between *sometimes* and *often*. This SLB was also identified by undergraduate business students in Jassawalla et al.'s (2009) study. Their measure of poor work quality, used in the present study, encompassed both poor work and slacking (not contributing the same amount of work). Like in the present study, Jassawalla et al. (2008) students in their study did not conceptually differentiate between the two behaviours. Reducing the effort a student puts into work is likely to result in poor quality output regardless of quantity. Poor work quality is the SLB most closely aligned with the traditional view of social loafing as a member's failure to contribute their share or portion to the team (Aggarwal & O'Brien, 2008).

Discussion non-contribution. Discussion non-contribution refers to a social loafer that does not participate in team discussion (in-person or using social media). Items that measured non-contribution to team discussions loaded onto a distinct factor from those measuring poor work quality. As such, non-contribution to team discussions was conceptually distinct from poor work quality. Social loafers were, on average, described as engaging in discussion non-contribution between *sometimes* and *often*. Like unavailability, these results demonstrate that students perceive loafing behaviour to be more than the inadequate contribution of work, students also recognise that loafers do not participate in generating new ideas for the team, loafers remain silent during team discussion and give a poor contribution to those discussions (in-person or using technology-based communication).

Antecedents and Social Loafing

Four multiple regression analyses were conducted to examine whether the antecedents of loafer apathy and poor communication skills introduced variance into the SLBs of unavailability, poor work quality, tech loafing and discussion non-contribution. The hypotheses relating to the excluded antecedents (social disconnectedness and other responsibilities) remain untested. The descriptive results indicate that on average, loafer apathy took place more than poor communication skills.

Loafer apathy and social loafing behaviour.

The results of the study found that loafer apathy explained significant variance in the four SLBs. This finding supports Hypotheses 2a-d, which proposed that loafer apathy would explain significant variance in (a) unavailability, (b) tech loafing, (c) poor work quality and (d) discussion non-contribution.

Loafer apathy explained a moderate amount of unique significant variance in poor work quality. As loafer apathy increased, students ratings of the poor work quality increased. Jassawalla et al. (2009) found the same result in their sample of North American undergraduate business students. While they did not explore the remaining three SLBs, the findings concerning loafer apathy and the SLBs of unavailability, tech loafing and discussion non-contribution are consistent with those of loafer apathy and poor work quality.

Unavailability and discussion non-contribution were both explained to a similar extent by loafer apathy. This suggests that lack of care and interest is attributed to directly observed behaviour (such work contribution or face to face interaction) as well as what is observed on information and communication technologies. Irrespective of whether the behaviour took place during team discussions or when trying to organise discussions, participants attributed the SLB to laziness, disinterest and lack of care about the assignment, the grades and university in general. While students attributed tech loafing to loafer apathy, it was the least well explained SLB. This is understandable when considering that the participant would not be able to see what the loafer was doing on their technological devices.

The present research is limited in that it can only speculate as to why students may be apathetic and engage in SLBs. Qualitative research has noted that students are often unaware they are considered to be social loafers until they receive a poor evaluation or are confronted by team members (Jassawalla et al., 2008, 2009; Pieterse & Thompson, 2010). Loafer apathy speaks to lack of care and interest as opposed to an intentional reduction of effort, which supports the notion that social loafing may not be tethered to a conscious decision-making processes (Jassawalla et al., 2009). Those perceived as loafing may simply be contributing the same level of effort to the team that they would have put into an individual project. This is then perceived as an SLB by team members who have different academic standards (Jassawalla et al., 2008, 2009; Pieterse & Thompson, 2010).On the other hand, loafer apathy could mask motivation loss owing to conscious choice, as the reduced effort would simply be attributed to apathy by the participant who is reporting on the loafer. To avoided this confound in future research, social loafing can be measured on both a team and individual level to determine whether the loafer was unaware of their behaviours or making a conscious decision to loaf. Alternately, perception-based survey tools should be used in conjunction with measurement of actual loafing behaviour (Schippers, 2014).

Poor communication skills and social loafing.

Unlike loafer apathy, the SLBs were not predicted by the poor communication skills of the loafer. Hypotheses 3a-d were not supported. Popov et al. (2012) stressed that poor grasp of the English language could lead to the incorrect perception that social loafing is taking place, as students may be unable to take part in discussions, contribute high-quality work in English. The present study supposed that poor communication skills would also extend to interaction on social media platforms. This was not the case. Contrary to the supposition presented by Popov et al. (2012), the present study demonstrates that students are able to differentiate between social loafing behaviours and poor communication skills. This speaks to perceptiveness of students in their ability to distinguish between social loafing and poor communication skills (Popov et al., 2012).

Conflict Avoidance as a Response to Social Loafing

The descriptive findings of the present study indicate that despite knowledge and education about conflict management, teams largely avoided confronting the social loafer. Teams and individuals preferred to do nothing to address the perceived loafing. In a concerning number of cases, 20% of teams and 15% of individuals found indirect ways to exhibit disapproval at both a team and individual. This suggests that the students perceived to be social loafers may encounter passive aggressive behaviour from other team members. In the context of a people management course at the highest ranking university in Africa, these findings advise that students may be exiting university not only with grades that do not reflect ability but without the necessary teamwork skills, such as conflict management skills, that collective work is proposed to instil (Kagan, 1995; King & Behnke, 2005).

Jassawalla, Malshe, and Sashittal (2008) speculate that pre-university socialisation reduces the students' ability to confront social loafing behaviour. In reference to their sample, they describe that students are unused to operating in groups without adult supervision and therefore fail to develop these skills at an earlier stage. The same circumstances may be present in the current sample of university students, although the issue of conflict and confrontation is likely more complicated. South African students contend with the challenges faced by multicultural groups (Popov et al., 2012). Moreover, they grapple with the privileges and oppressions that are present as a result of historical inequalities (Shefer et al., 2018). The impact of these dynamics were not examined in the present study. Future research giving focus to conflict avoidance, confrontation and social loafing within the culturally

multifaceted South African university space would provide a better understanding of the responses to social loafing within diverse teams.

Consequences of Social Loafing

The results confirm that social compensation and the sucker effect are perceived by students as distinct responses. Social compensation occurred to a greater extent than the sucker effect in the present sample of South African undergraduate business students. Contrary to Hypothesis 6, social compensation and the sucker effect are not negatively related. Consistent with previous field investigations of social loafing among students, the current study found a social compensation effect (Jassawalla et al., 2009; Schippers, 2014). On average, the sucker effect was not a response to perceived social loafing that student teams engaged in.

Sucker effect.

The sucker effect was not predicted by the SLBs. Hypotheses 7a-d was not supported. Team members did not lower their effort in response to perceived social loafing (Mulvey & Klein, 1998). Interestingly, the sucker effect and poor communication skills did share a medium significant positive relationship. As the social loafer displayed poorer communication skills, the rest of the team reduced their effort. This is evidence of what Comer (1995) would classify as disheartened loafing, characterised by a decline in an individual's sense of influence (in response to non-contribution) and subsequent reduction in effort.

Unlike most research examining the sucker effect (Jackson & Harkins, 1985; Kerr, 1983; Kerr & Bruun, 1983), the present study sought to determine if it would be a response to social loafing within a field setting (Mulvey & Klein, 1998). Such field investigations better reflect the interaction between team members and the interplay of team dynamics. For example, team members have the opportunity to interact with one another for extended periods of time (Zhu & Wang, 2018). As a result, the research findings may better represent how students respond to social loafing in naturally occurring teams (Robbins, 1995); not by reducing their effort, by increasing their effort to engage in social compensation.

Social compensation.

Social compensation was predicted by poor work quality and discussion non-contribution, supporting Hypotheses 8c-d. In addition, loafer apathy was found to predict social compensation in both step 1 and step 2 of the hierarchal regression, a relationship not

originally hypothesised. The SLBs of unavailability and tech loafing did not predict social compensation. Therefore, Hypotheses 8a-b was not supported.

Loafer apathy introduced unique significant variance to social compensation, even after the SLBs were introduced in the final step of the regression. Teams will compensate for students perceived as apathetic. The finding that loafer apathy uniquely predicts social compensation is an indication that students may automatically compensate for students exhibiting apathetic dispositions irrespective of their actual loafing behaviour.

While Jassawalla et al. (2009) did not explore loafer apathy's relationship with social compensation, loafer apathy was significantly related to poor work quality, which then predicted social compensation. This result is also evident in the present study, as poor work quality and discussion non-contribution predicted variance in social compensation. Although social compensation was related to the other types of SLB (unavailability and tech loafing), they did not make significant contributions to the model predicting social compensation. When considering poor work quality, it is easy to see how students are able to compensate, as they can add in extra work, revise or re-do unsatisfactory work (Jassawalla et al., 2009). In contrast, teams compensate less for those members who did not contribute to the team's discussion. In practice, there is little a team can do to compensate for an individual who does not contribute during team meetings, who uses technology at inappropriate times or who is absent and unavailable when setting and discussing content as a team (Jassawalla et al., 2009). Rather, these behaviours may require other responses. This is a plausible argument when considering the present study's findings that students participate in conflict avoidance or find indirect ways of showing disapproval towards social loafing team members.

Despite the argument that students who receive instruction concerning effective teamwork will be better equipped to manage social loafing and its consequences (Aggarwal & O'Brien, 2008; Ettington & Camp, 2002; Jassawalla et al., 2009), the results of the study demonstrate that social compensation will take place even when the teaching curriculum comprised of material focusing on team dynamics, including social loafing. A social compensation effect is likely the result of certain structural conditions held constant in the BUS3039 teams. Individual identifiability was low because a shared grade was given and peer evaluations were not used (Todd et al., 2006; Williams & Karau, 1991). While task meaning or value (team success) was not directly measured, the collective team grade was worth almost a third (30%) of the students' overall course grade. From this it can be inferred

that both the students who aim to pass and those who wish to achieve highly in the course would place value on the team's performance, necessitating additional work be done to complete the team assignment (Williams & Karau, 1991). The results of the present study endorse that students in diverse teams will work harder in a collective environment if one or more members do not contribute work of sufficient quality, take part in discussions to the necessary degree or displays a lack of care and interest towards their university studies.

The Moderating Effect of Leadership Effectiveness

Previous work has examined formal, incentivised leadership (Ferrante et al., 2006). The present study found a significant association between formal leadership and social loafing, similar to that of Ferrante et al. (2006), who found a weak significant relationship between formal leadership and social loafing. This study took its investigation a step further than Ferrante et al. (2006) to examine student rating of leadership effectiveness and how it relates to specific SLBs. An initial examination of descriptive results indicated that students were mostly neutral about the leader's effectiveness (48%) and only half the sample perceived that there was a formal leader. This coincides with findings by Chapman et al. (2010), who describe that students were largely neutral regarding leadership in their group projects, a contrast to the beliefs of faculty members regarding leadership in group work, who rank leadership as an important factor for productivity.

Despite students' neutral outlook on leadership in their teams, leadership effectiveness moderated the relationship between loafer apathy and tech loafing, supporting Hypothesis 9b. Hypotheses 9a and 9b-c were not supported, the relationship between loafer apathy and the remaining SLBs were not moderated by leadership effectiveness. Considering loafer apathy's contribution of significant variance to social compensation, the regression between loafer apathy and social compensation was also tested for the potential moderating effect of leadership effectiveness. It was found to significantly moderate the relationship between loafer apathy and social compensation.

Tech loafing. High leadership effectiveness was related to greater amounts of loafer apathy, which then increased the amount of tech loafing in teams. This suggests that students in teams with effective leaders exhibit more apathy, which then increases the degree to which tech loafing is perceived as taking place. Teams with ineffective leaders did not experience a change in loafer apathy, meaning that for conditions of low leadership effectiveness, the relationship between apathy and tech loafing was small. Bearing in mind that loafer apathy is

the student's lack of care and interest, it is reasonable to say that as the leader delegates responsibility and motivates the team, students may feel more dispensable, namely that that their contributions are less worthwhile (Kerr & Bruun, 1983). This would then signal to students that they can do other things, such as using technology when the team meets, without reprimand (as grades are not awarded individually). This may explain why low leadership effectiveness did not share a significant interaction with loafer apathy, as students would not feel less apathetic with ineffective leaders, rather they would revert to their baseline of disinterest and lack of care.

Social Compensation. The results indicate that the relationship between loafer apathy and social compensation was influenced by leaders rated both high and low on leadership effectiveness. The relationship between loafer apathy and social compensation was stronger when leadership effectiveness was high as opposed to low. This pattern of results suggests that higher ratings of effective leadership are linked to more apathy, which then causes teams to compensate more. Additionally, the results indicate that when loafer apathy is high, teams with more effective leadership will compensate more than teams with ineffective leadership. The opposite is true for low loafer apathy; teams with effective leadership will compensate less than those with ineffective leadership (although this relationship is only significant until one standard deviation below the mean). This findings suggests that effective leaders are able to identify that social compensation is necessary if loafers are highly apathetic, requiring additional effort from the team to meet their desired goals (valued outcomes; Karau & Williams, 1997). Alternately, when loafers are perceived as less apathetic, effective leaders identify that less compensation is required to meet the team's desired goals.

In sum, while leadership is not the primary focus of this study, the present results indicate that it is a variable to consider within research that examines social loafing. Together these two moderation results indicate that effective leadership may signal to loafers that their effort is less worthwhile, increasing their apathy. Teams would then compensate as a response. Bearing in mind that leadership effectiveness was measured by a single item, these results should be replicated with a multi-item measure of leadership effectiveness to ensure greater validity and reliability.

Team Performance

Hypotheses 10a-d was not supported as a negative relationship was not present between team performance and the SLBs. The findings of the study did not support the

negative relationship between team performance and social loafing found in previous research (Karau & Williams, 1997; Mulvey & Klein, 1998; Price et al., 2006). Social compensation may be the source of the insignificant findings between team performance and the SLBs. Schippers (2014) found that students who engaged in social compensation were able to maintain their team performance in the presence of social loafing. Social compensation was a response to social loafing in the present research which may have prevented the SLBs from negatively impacting performance. (Liden et al., 2004; Schippers, 2014). In the future social compensation should examined for its potential to mediate the relationship between the SLBs and team performance.

Although not originally hypothesised, team performance and poor communication skills shared a medium negative relationship. As loafers are viewed as less skilled (poor communication skills increase), it is probable that they contribute less value to the team, leading to lower team performance. When considering that poor communication skills shared a medium positive relationship with the sucker effect, it is may be that as poor communication skills increase, the sucker effect increases (lower collective effort) and team performance declines (Mulvey & Klein, 1998). Be that as it may, the results concerning team performance should be interpreted with caution as the sample size was inadequate to say with certainty whether Hypotheses 10a-d and 10f were supported or unsupported.

Practical Implications

Social loafing is present within undergraduate business teams at UCT, establishing that the phenomenon is present within the culturally multifaceted South African student context. The findings demonstrate that students perceive social loafing to consist of more than inadequate contribution (Jassawalla et al., 2008, 2009). They perceive social loafing as non-contribution to team discussions, use of technology at inappropriate times, being unavailable when setting or holding team discussions and the contribution of work that is of poor quality. Students largely attributed these SLBs to an individual's lack of care and interest in university and the work related to it. With this understanding of the student perspective, although the participants received instruction about social loafing, it likely did not reflect what they perceive to be social loafing. Lecturers in a South African and international context alike can draw on these findings to gain a practical understanding of the student perception of social loafing. Both lecturers and students can use the identified behaviours, and knowledge of loafer disposition, to recognise and target loafing in student teams. An implication being the facilitation of better teamwork experiences for students who

are required to participate in teamwork projects. It may also promote the experiential learning process that student teamwork offers (Hall & Buzwell, 2013).

The presence of social compensation was a response to poor work quality and loafers that were considered apathetic. A compensation effect indicates that students are not acquiring the team management skills collective work is proposed to instil as they are unable to foster healthy team processes, such as conflict management (Kagan, 1995; King & Behnke, 2005). Moreover, students are rewarded for the hard work of others and may be leaving university with grades that do not reflect their competence in the course material. This implicates the lecturers who use teamwork as a measure of knowledge, skill and ability, especially when a collective grade is given without the opportunity for peer evaluation. If teamwork is going to continue to feature as a component of student grades, it is recommended that teamwork is structured to reward effort. One example of this is the use of peer evaluations that influence the collective mark awarded. This would then generate greater identifiability of work contributed and lower students tendency to social loaf (Aggarwal & O'Brien, 2008).

Direction for Future Research

This study contributes to an under-examined area of the social loafing research; the student perception of social loafing. The findings should be considered in conjunction with the research limitations and subsequent recommendations for future research.

Future research should consider collecting data from student teams at two or more points in time to reduce the threat to internal validity posed by common method variance. In the present study, social loafing was not assessed independently of the survey data, which was derived from a single participant's response at a single point in time. The cross-sectional nature of the survey data could produce common method variance, where the study may be affected by systematic response tendencies (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). These include transient mood state, acquiescence and social desirability bias. Potential alternative explanations are indicative that support for causal inferences cannot be given by the present study (Rindfleisch, Malter, Ganesan, & Moorman, 2008). To reduce these biases and evaluation apprehension, the cover letter emphasised that participation would remain anonymous and that the student's own experiences were of interest, implying that there were no correct or incorrect answers. A post-hoc Harman single-factor analysis was conducted to test for common method variance (Podsakoff et al., 2003). The composite scales were

subjected to an EFA using principal-axis factoring. The un-rotated factor solution was examined to determine whether the variance in the composite scales was owing to a single underlying factor. Two factors emerged, the first with a variance of 38.34%, inferring that common method variance likely did not influence the results as this was lower than 50% (see Table A15).

In the future, obtaining longitudinal data would benefit the social loafing literature, as perceived social loafing may only take place at certain points in a team's development process (Zhu & Wang, 2018). Identification of social loafing may be related to the amount of time individuals have spent together as a team. Repetition of an SLB is likely required before it is identified as social loafing (Boren & Morales, 2018). The present study was limited in this area, as some participants had completed their assignment the previous year, some the previous semester and some still had several weeks until completion. Those who had already completed their assignment are expected to report a greater amount of social loafing as more time is given for students to recognise the behaviour. If longitudinal data is not feasible, forthcoming social loafing research should note the duration of the team project and when measurement took place in this process.

In the context of South Africa's diverse society, more research is required to understand how people of different cultures, socio-economic backgrounds, races and languages interact to address the salient issues concerning diverse teams and the occurrence of perceived and actual social loafing. Such findings would benefit South African universities, many of which are undergoing transformative processes to meet students call for university spaces that are physically and psychologically inclusive (Shefer et al., 2018). The present research is limited in its findings concerning diversity. A topic for future consideration would be to examine if team composition influences the perception that social loafing is taking place (Price et al., 2006). Such findings would contribute a more nuanced understanding of social loafing in the culturally multifaceted South African context.

The use of technology on university campuses has been recognised as distracting students during lectures, however little research has established whether such behaviour takes place in teamwork assignments. The present findings reinforce that the use of technology can constitute both a tool and a distraction. Future social loafing research should continue to incorporate technology as a variable given student's use of it at inappropriate times (Ragan et

al., 2014) as well as the uptake of technology-supported teams in both the student and workplace context (Suleiman & Watson, 2008).

Conclusion

Students come to resist and resent collective work assignments because of their experiences with social loafing. The present research constitutes the first quantitative examination of student social loafing within a South African university. It established that students experience social loafing despite receiving coursework instruction about social loafing and team dynamics. Four components of perceived social loafing behaviour were identified using factor analysis: unavailability, poor work quality, tech loafing and discussion non-contribution. Students largely attributed the SLBs to loafer apathy. While social loafing was not related to team performance, this does not mean the grades allocated accurately represented students' teamwork ability or knowledge of assignment content. Teams were found to compensate for apathetic loafers and loafers that contributed work of poor quality but would reduce their compensation for those who did not engage in team discussions. Teams with more effective leaders experienced higher levels of loafer apathy, which then increased the amount of tech loafing engaged in by loafers. More effective leaders were also found to better manage the social compensation response of teams; however, they were also positively related to the amount of perceived loafer apathy and a greater amount of social compensation.

The exploration of student perception of social loafing extends the social loafing literature by recognising students' practical experiences. These are largely overlooked despite the frequent use of student samples. The study reinforces the argument made by Jassawalla et al. (2009) that the unidimensional conceptualisation of social loafing needs to evolve if student social loafing behaviour is to be correctly identified and reduced. The current study will allow for greater identification of SLBs in student teams that work using in-person and over technology facilitated platforms. Considering the multifaceted nature of South African society and the progressive change to team interaction as a result of technology, it would be beneficial for future research to focus on these topics in conjunction with the student perspective of social loafing to develop a comprehensive understanding of why student social loafing tends to occur, how to identify it and what the consequence are for student teams.

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Appendix A
Tables

Table A1

Number of Perceived Social Loafers in Participant's Team

Social loafers	Frequency	%
0	105	45.85
1	69	30.31
2	43	18.77
3	8	3.49
4	1	.44
5+	3	1.31
Total Loafers	124	54.15
Total Non-loafers	105	45.85

Note. n = 229. Percent calculated from all valid respondents.

Table A2

Demographic Composition of the Participants

Demographic	Category	Number of Students	% of Students
Gender	Male	102	50.74
	Female	96	47.48
	Other	1	0.50
	Prefer not to answer	2	1
Race	Black	36	18
	Coloured	18	9
	White	101	50.50
	Indian/Asian	30	15
	Other	3	1.50
	Prefer not to answer	12	6
Language	English	156	78
	Other	40	20
	Prefer not to answer	4	2
Course	BUS3039F 2018	50	20
	BUS3039S 2018	98	39.20
	Strategic thinking 2018	102	40.80

Note. n = 229. Percent calculated from all valid respondents.

Table A3

Demographic Composition of the Courses Surveyed

Demographic	Category	Number of Students	% of Students
Gender	Male	662	60.08
	Female	430	39.34
Race	Black	198	19.89
	Coloured	98	9.02
	White	454	40.40
	Indian/Asian	156	13.52
	Unknown	186	17.18
Course	BUS3039F 2018	243	22.25
	BUS3039S 2018	321	29.39
	Strategic thinking 2018	528	48.35

Note. $N = 1092$.

Table A4

Factor Analysis: Antecedents Scale 19 Item Factor Matrix

Item	1	2	3	4	5
ANT1	.55	-.21	-.09	.03	.45
ANT2	.69	-.22	-.02	.06	.36
ANT3	.66	-.37	.04	-.02	-.09
ANT4	.62	-.13	-.04	-.06	-.13
ANT5	.58	-.14	.10	.00	.23
ANT6	.69	-.17	.08	-.03	-.19
ANT7	.77	-.26	.06	-.18	-.13
ANT8	.72	-.26	.18	-.08	-.35
ANT9	.42	.32	-.56	.35	-.07
ANT10	.40	.46	-.62	.18	-.12
ANT11	.51	.28	-.17	-.07	.10
ANT12	.42	.19	-.08	-.02	-.12
ANT13	.37	.61	.19	-.30	.05
ANT14	.33	.82	.20	-.24	.10
ANT15	.23	.76	.17	-.11	.02
ANT16	.15	.34	.26	.42	-.02
ANT17	.40	-.23	.32	.46	.08
ANT18	-.01	.41	.42	.44	-.08
ANT19	.14	.03	.24	.02	-.08
Eigenvalues	5.22	3.13	1.71	1.35	1.09
Individual total variance (percent)	27.47	16.49	9.00	7.09	5.73
Cumulative total variance (percent)	27.47	43.96	52.97	6.05	65.78

Notes. $n = 108$ after listwise deletion of missing data

Table A5

Factor Analysis: Correlations between Factors of Antecedents Scale

Factor	1	2	3	4	5
1	1.00				
2	.15	1.00			
3	-.12	-.28	1.00		
4	.14	.24	.05	1.00	
5	.57	.00	-.21	.02	1.00

Table A6

Factor Analysis: Antecedents Scale Final 10 Item Structure Matrix

Item	1	2
ANT2	.66	.07
ANT3	.77	-.07
ANT4	.66	.13
ANT5	.56	.12
ANT6	.71	.10
ANT7	.85	.09
ANT8	.77	.08
ANT12	.20	.76
ANT13	.09	.98
ANT14	.00	.80

Notes. n = 108 after listwise deletion of missing data.

Table A7

Factor analysis: SLB 19 item factor matrix

Item	1	2	3	4
SLB1	.46	-.28	.34	-.35
SLB2	.55	-.29	.06	.37
SLB3	.47	-.14	.35	.48
SLB4	.65	-.18	-.21	-.07
SLB5	.68	-.16	-.17	.12
SLB6	.81	-.05	-.15	.07
SLB7	.57	-.10	.00	.30
SLB8	.67	-.15	-.36	-.09
SLB9	.71	-.13	-.41	-.04
SLB10	.70	-.09	-.46	-.05
SLB11	.30	.38	-.22	-.15
SLB12	.46	.23	-.24	-.24
SLB13	.64	.08	.18	.24
SLB14	.55	-.22	.29	-.05
SLB15	.69	-.18	.45	-.34
SLB16	.72	-.17	.41	-.25
SLB17	.43	.64	.17	.02
SLB18	.44	.85	.09	.05
SLB19	.46	.82	.12	.01
Eigenvalues	7.01	2.69	1.85	1.37
Individual total variance (percent)	36.90	14.14	9.75	7.20
Cumulative total variance (percent)	36.90	51.04	6.80	67.99

Notes. n = 108 after listwise deletion of missing data

Table A8

Factor Analysis: Correlations between Factors of SLB

Factor	1	2	3	4
1	1.00			
2	.30	1.00		
3	.44	.16	1.00	
4	.27	.05	.40	1.00

Table A9

Factor Analysis: Final 14 Item Structure Matrix

Item	1	2	3	4
SLB1	.70	.03	-.28	.30
SLB2	.38	.04	-.42	.83
SLB3	.38	.18	-.22	.62
SLB4	.44	.15	-.64	.47
SLB7	.33	.18	-.40	.62
SLB8	.39	.15	-.69	.36
SLB9	.37	.19	-.90	.41
SLB10	.32	.22	-.95	.37
SLB14	.65	.12	-.34	.45
SLB15	.92	.25	-.40	.42
SLB16	.86	.26	-.42	.52
SLB17	.22	.78	-.19	.18
SLB18	.10	.97	-.19	.15
SLB19	.16	.97	-.20	.15

Notes. n = 108 after listwise deletion of missing data.

Table A10

Descriptive and Distribution Statistics for All Variables

Variable	*n*	*M*	*SE*	*SD*	Skewness	Kurtosis
Unavailability	116	3.45	0.09	1.02	-0.20	-0.71
Tech loafing	114	2.56	0.11	1.22	0.37	-0.73
Poor work quality	117	3.51	0.09	0.95	-0.36	-0.47
Discussion non-contribution	116	3.58	0.08	0.87	-0.35	-0.03
Loafer apathy	113	3.51	0.07	0.80	-0.41	0.14
Poor communication skills	111	2.68	0.10	1.02	0.25	-0.44
Social compensation	107	3.63	0.08	0.81	-0.58	0.43
Sucker effect	107	2.53	0.09	0.95	0.28	-0.10
Team performance	112	72.8	0.55	5.84	-0.55	1.87
Team diversity	229	2.32	0.07	1.0	0.38	-0.83
Leadership effectiveness	210	3.47	0.06	0.82	-0.2	0.77
SL academic ability	119	2.94	0.06	0.64	-.339	1.84

Note. *n* = sample size; *M* = scale mean; *SE* = standard error of mean; *SD* = standard deviation of mean.

Table A11

Descriptive Statistics: Team Composition

Item	Category	Frequency	%
How Diverse was your team?	Not diverse at all	3	1.31
	Not very diverse	36	15.72
	Averagely diverse	52	22.71
	Diverse	78	36.06
	Very diverse	60	26.20
Was there a leader?	Yes	88	50.29
	No	87	49.71
Was the leader effective?	Strongly Disagree	5	2.38
	Disagree	8	3.81
	Neither agree nor disagree	102	48.57
	Agree	74	35.24
	Strongly Agree	21	10.00
Were there prior friendships between team members?	Yes	98	44.34
	No	107	48.42
	Not Sure	16	7.24
Given the constraints, what was the rating of team performance?	Terrible	1	0.45
	Poor	8	3.57
	Average	63	28.13
	Good	127	56.70
	Excellent	25	11.26

Note. n = 229. Percent calculated from all valid respondents.

Table A12

Descriptive Statistics: Social Loafer Socio-Demographic Statistics

Demographic	Category	Frequency	%
Gender	Male	81	66.94
	Female	33	27.27
	Prefer not to answer	0	5.79
Race	Black	51	42.15
	Coloured	11	9.09
	White	27	22.31
	Indian/Asian	15	12.40
	Other	0	0
	Prefer not to answer	17	14.05
Language	English	66	54.55
	Other	35	28.93
	Prefer not to answer	20	16.53
Academic Ability	Very Weak Student	3	2.52
	Weak Student	18	15.13
	Average Student	82	68.91
	Strong Student	15	12.61
	Very Strong Student	1	0.84
Perceived Socio-economic status	Less than enough	9	7.63
	Enough	82	69.49
	More than enough	27	22.88
Access to laptop/computer off-campus	Yes	96	79.34
	No	7	5.79
	Not Sure	18	14.88
Access to internet off-campus	Yes	89	73.55
	No	8	6.61
	Not Sure	24	19.83
Had access to transport off-campus	Strongly Disagree	2	2.20
	Disagree	5	5.49
	Neither agree nor disagree	16	17.58
	Agree	42	46.15
	Strongly Agree	26	28.57

Note. n = 124. Percent calculated from those who perceived there was a social loafer.

Table A13

Correlation Analysis: Team Composition and Composite Variables

	Team Diversity	Leadership Effectiveness	SL Academic Ability
1 Unavailability	-.27**	-.06	-.26*
2 Tech loafing	-.13	-.19*	.04
3 Poor work quality	-.1	-.03	-.3**
4 Discussion non-contribution	-.06	.03	-.35**
5 Loafer apathy	-.16	-.01	-.36**
6 Poor communication skill	-.08	-.06	-.02
7 Social compensation	-.19	-.03	-.14
8 Sucker effect	-.03	-.15	-.16

Note. Values are Pearson correlation coefficients. Same size ranging from n = 107 to n = 116 after pairwise exclusion. SL = Social Loafer.
. *$p \leq .05$; ** $p \leq .01$.

Table A14

Chi-square Analysis: Categorical Variables and Perceived Social Loafing

Variable	$\chi 2$	df	p	n
Leader	4.87	1	.027	175
Friendships	2.562	2	.278	221
Participant race	5.66	5	.340	200
Participant gender	1.25	3	.653a	201
Participant home language	2.5	2	.287	200

[a] Likelihood ratio.

Table A15

Harman's Single-Factor Test for Composite Scales

Scale	Factor	
	1	2
1 Unavailability	.61	.14
2 Tech loafing	.31	.07
3 Poor Quality Work	.86	-.31
4 Discussion Non-Contribution	.57	.21
5 Loafer Apathy	.76	.09
6 Poor communication skills	.15	.54
7 Social compensation	.68	-.22
8 Sucker effect	.16	.33
Eigenvalue	3.07	1.28
Variance Explained %	38.34	16.05
Cumulative Variance Explained %	38.34	54.39

Notes. n = 103. Extraction method: Principal axis factoring. Un-rotated factor solution.

Appendix B
Ethics Approval

Faculty of Commerce
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Tel: +27 (0) 21 650 4375/ 5748 Fax: +27 (0) 21 650 4369
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@Commerce_UCT UCT Commerce Faculty Office

20/08/2018

Ms Carey Singer
School of Management Studies
University of Cape Town

REF: REC 2018/008/080

Dear Carey Singer,

Student perception of social loafing in university group work: Antecedents and outcomes.

We are pleased to inform you that your ethics application has been approved. We are pleased to inform you that your ethics application has been approved.
Unless otherwise specified this ethical clearance is valid for 1 year and may be renewed upon application.

Please be aware that you need to notify the Ethics Committee immediately should any aspect of your study regarding the engagement with participants as approved in this application, change. This may include aspects such as changes to the research design, questionnaires or choice of participants.

The ongoing ethical conduct throughout the duration of the study remains the responsibility of the principal investigator.

We wish you well for your research.

Modie Sempu
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Appendix C
Survey Tool

Social loafing Behaviour

The social loafer…

… had trouble attending team meetings
… did not participate in generating new ideas
… was mostly silent during team discussions
… did not contribute their share to the assignment*
… avoided taking on any work for the team
… was poorly prepared for the team discussions
… contributed poorly to the team discussions
… had trouble completing team-related work
… did a poor job of the work they were assigned
… did poor quality work
… distracted the team with non-work related things*
… mostly distracted the team's focus on its goals and objectives
… found it difficult to pay attention to what was going on in the team
… did not respond quickly when using messenger app or email*
… was mostly unavailable when the team wanted to work*
… was largely not present when the team held discussions*
… did other work on their devices (laptop, cell phone, tablet) during the team meetings*
… spent more time on their devices than participating in the team meetings*
… was distracted by their devices during the team meetings*

* = Created based on the text analysis

Self-reported Loafing Behaviour

I preferred to let the other group members do the work when possible
I put in less effort than other members of my team
I put in less effort on the assignment when other team members are around to do the work
I deferred my responsibilities to other team members

Social loafing Behaviour

Antecedents

. . . seemed to expect others to pick up the slack with no consequences to their assignment
. . . did not seem interested in the team's idea or direction for the assignment
. . . did not seem care about earning a high grade in the class
. . . just did not seem to care about how well they did at university*
. . . seemed to be just plain lazy
. . . did not seem to mind receiving a low grade*
. . . did not seem to care about the team assignment
. . . did not seem to want high grades*
. . . did not seem to like one or more members in the team
. . . did not seem to get along with one or more team members
. . . did not seem to belong to the team
. . . did not seem to have the skills to do the assignment
. . . seemed to have poor communication skills*

. . . seemed unable to contribute quality work because of their poor communication skills*
. . . seemed unable to express their ideas because of their poor communication skills*
. . . seemed to have other non-university work responsibilities*
. . . seemed to be more interested in their social life than university work*
. . . seemed to have family and/or friend responsibilities that took priority over the
. . . had other university courses that took priority over the assignment*
* = Created based on the text analysis

Team Response
Did nothing
Talked to the lecturer about the problem we were having
Ignored them
Tried to engage them
Confronted them and asked them to change their behaviour
Instead of confrontation, found INDIRECT ways of letting them know that I did not approve of their behaviour
Kicked the member out the team
Applied some type of conflict resolution process
Gave them a poor peer evaluation

Social Loafer Action after Team Response
The loafer contributed more to the team
The loafer contributed less to the team
The social loafing continued as before
We had to do more as a team
The loafer became defensive and withdrew further from the team

Individual Response
Did nothing
Left the team
Ignored them
Tried to engage them
Confronted them and asked them to change their behaviour
Found INDIRECT ways of letting them know that I did not approve of their behaviour

Social Loafer Action after Individual Response
The loafer contributed more to the team
The loafer contributed less to the team
The social loafing continued as before
I had to work harder in the team
They became defensive and withdrew further from the team

Social Compensation

As a result of the social loafing...
…other team members had to waste their time explaining things to the social loafer
…other team members had to do more than their share of work
…other team members had to re-do the work done by the social loafer
…the work had to be re-assigned to other members of the team

Sucker Effect

As a result of the social loafing...

…other team members did not continue to work hard on the assignment
… other team members did not try their best
… other team members lowered their effort
… other team members did not work as hard as they could have

Team Structure and Performance

Your BUS3039F/S project group number…

How diverse was your team?
Not diverse at all
Not very diverse
Averagely diverse
Diverse
Very diverse

Given the constraints, our group performance for BUS3039 was
Terrible
Bad
Average
Good
Excellent

How many of the team members were social loafers (someone who did not contribute the same extent as others in the team)?
0
1
2
3
4
5+

Would you say there were pre-existing friendships/relationships between team members?
Yes
No
Not Sure

Did you have a team leader?
Yes
No

Was the leader effective?
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree
Participant Demographics
Race?
Black
Coloured
Indian/Asian
White
Other
Prefer not to answer

Gender
Male
Female
Other
Prefer not to answer

Home Language?
English
Other
Prefer not to answer

Description of Social Loafer

Academic Ability?
Very Weak Student
Weak Average Student
Strong Student
Very Strong Student

Race?
Black
Coloured
Indian/Asian
White
Other
Prefer not to answer

Gender
Male
Female
Other
Prefer not to answer

Home Language?
English
Other
Prefer not to answer

Socio-economic status?
Less than enough
Enough
More than enough

Appendix D
Figures

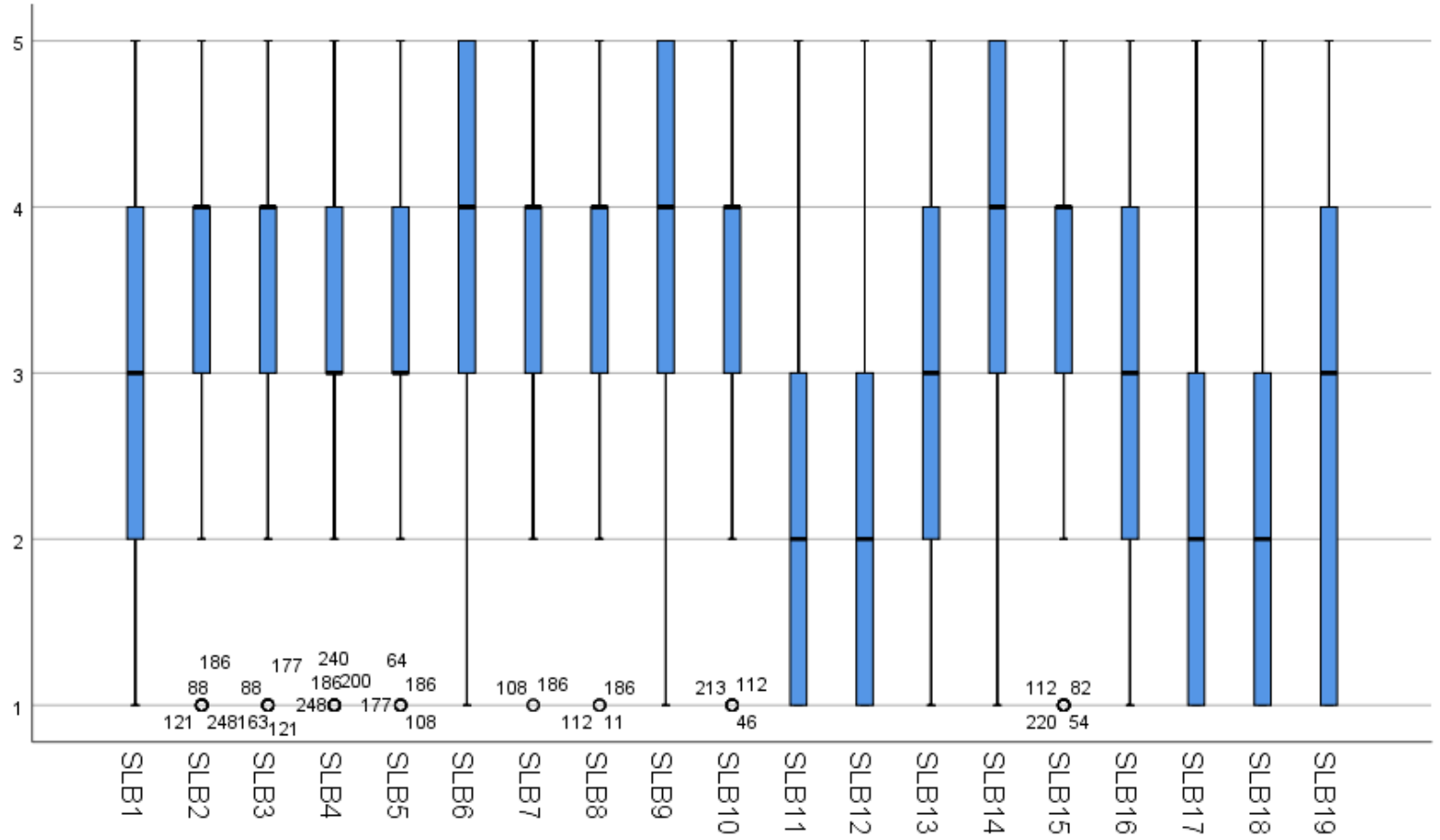

Figure D1. Boxplots for social loafing behaviour items.

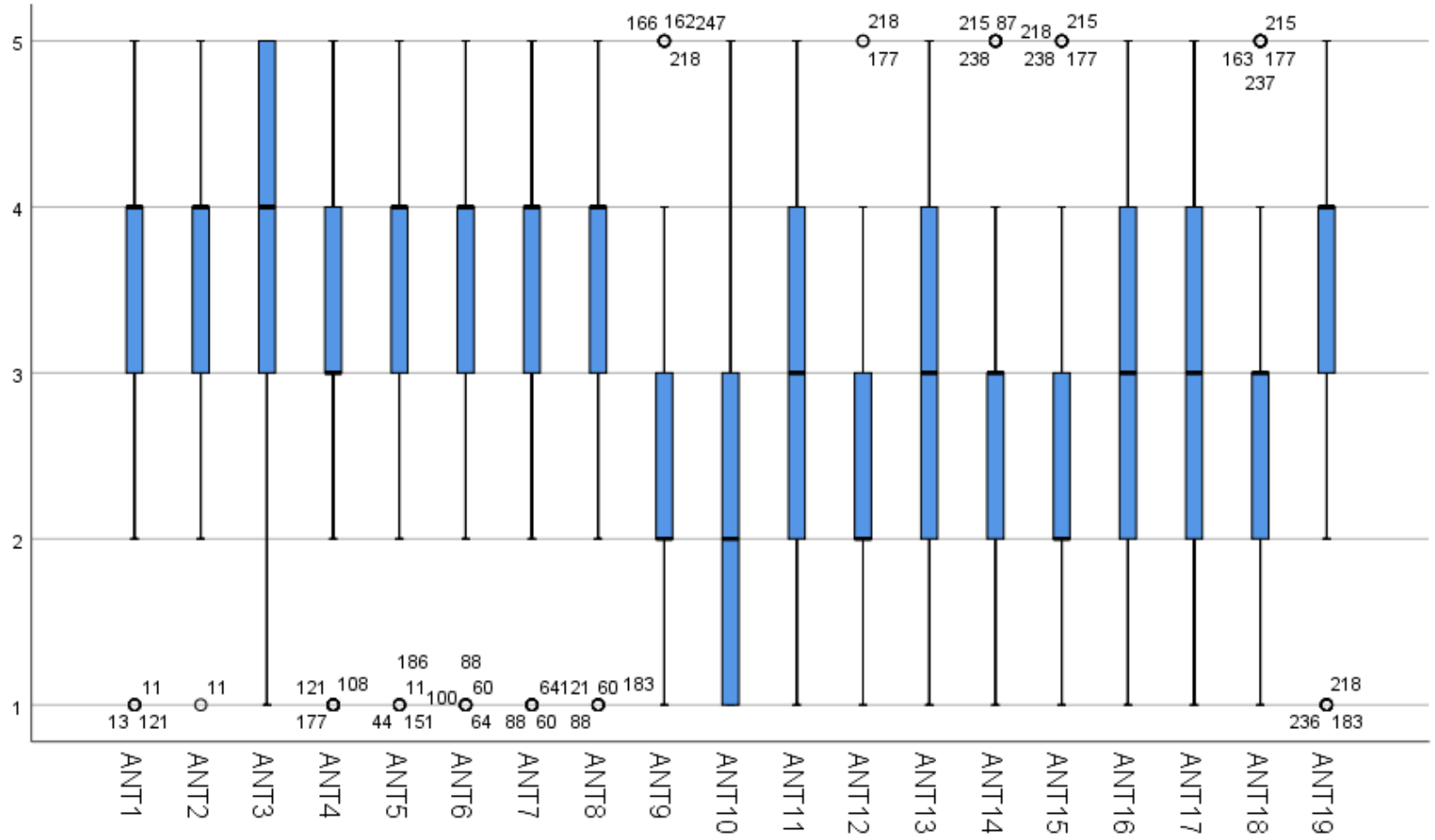

Figure D2. Boxplots for antecedents to social loafing items.

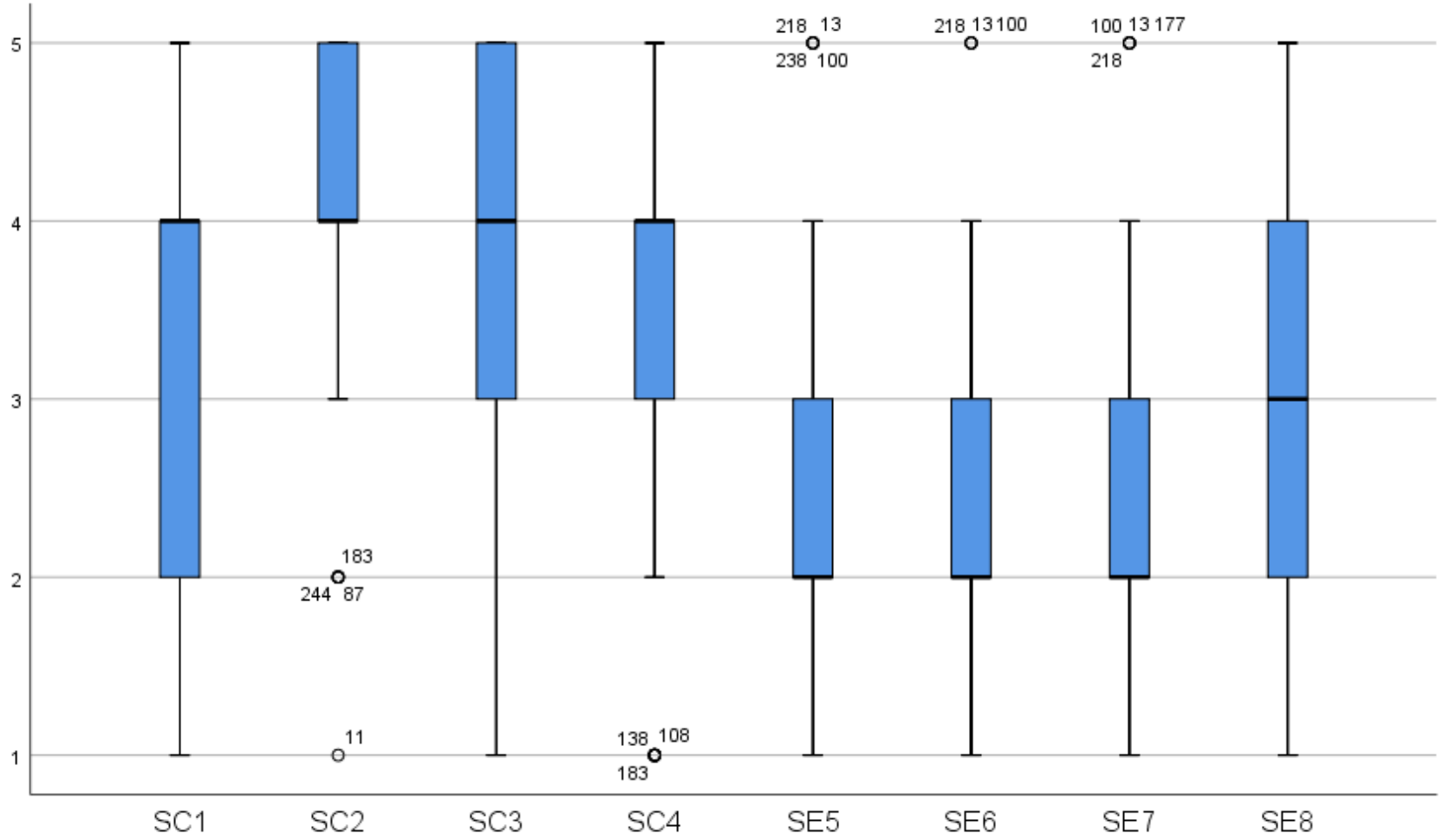

Figure D3. Boxplots for consequences to social loafing items.

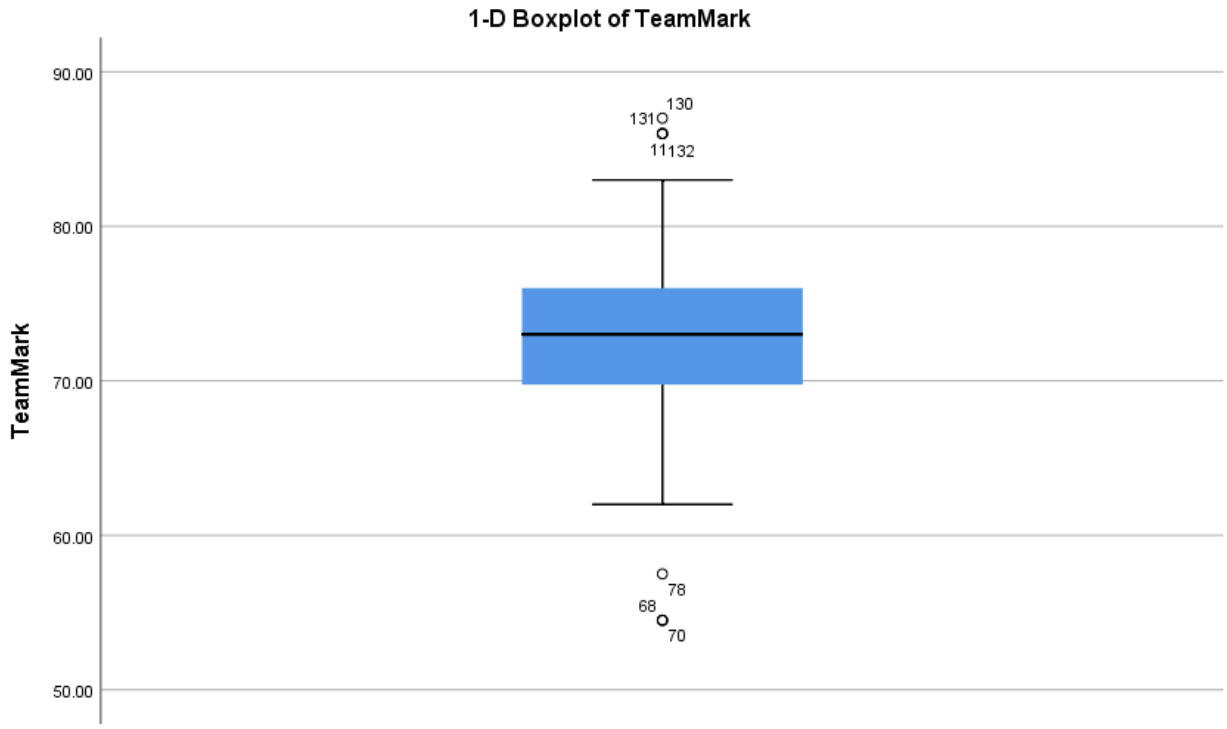

Figure D4. Boxplot for team performance.

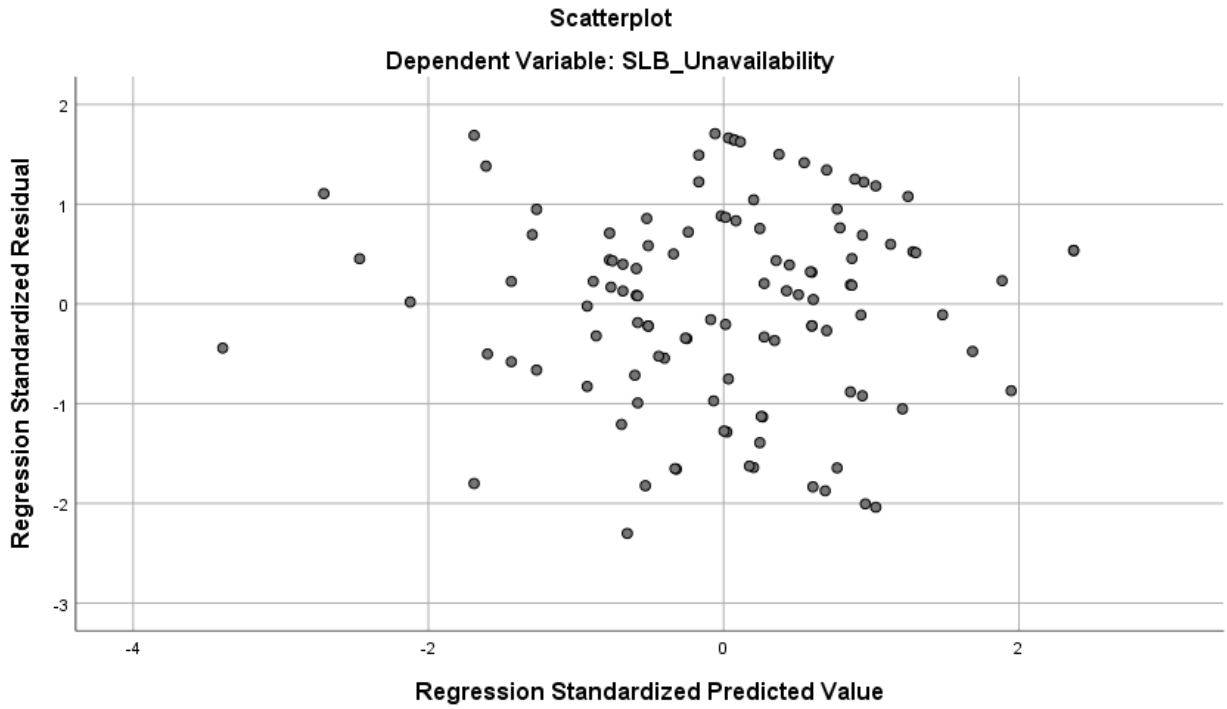

Figure D5. Regression analysis: Scatterplot of standardised residuals of poor communication skills and loafer apathy predicting unavailability.

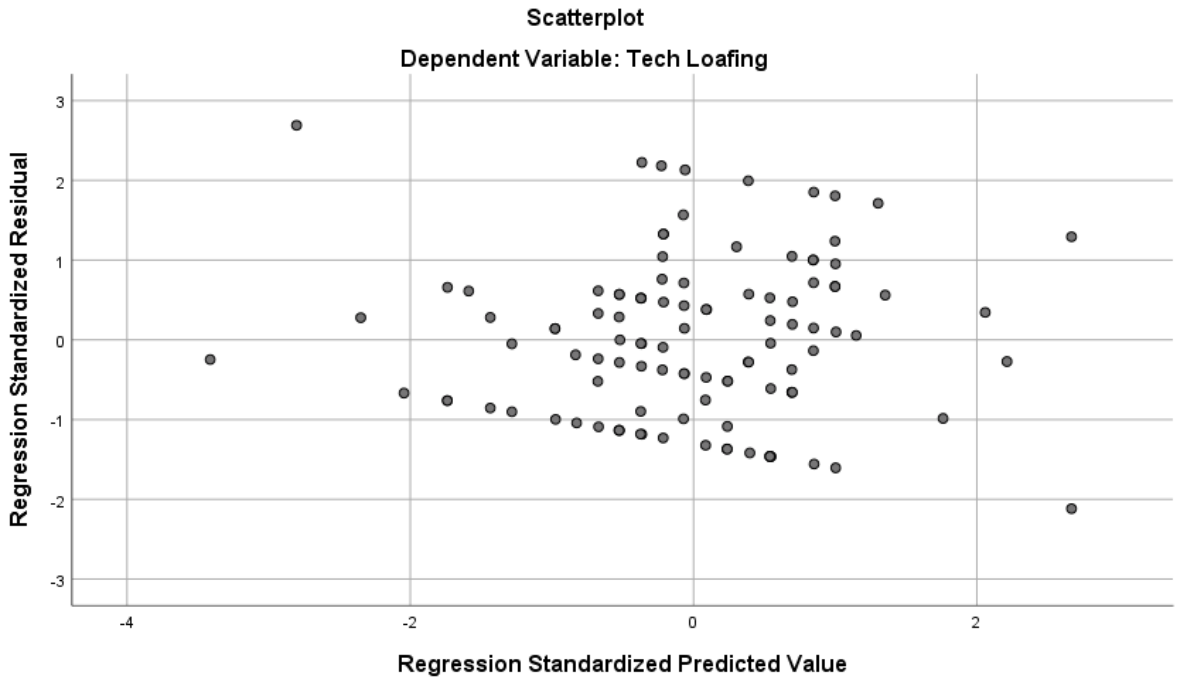

Figure D6. Regression analysis: Scatterplot of standardised residuals of poor communication skills and loafer apathy predicting tech loafing.

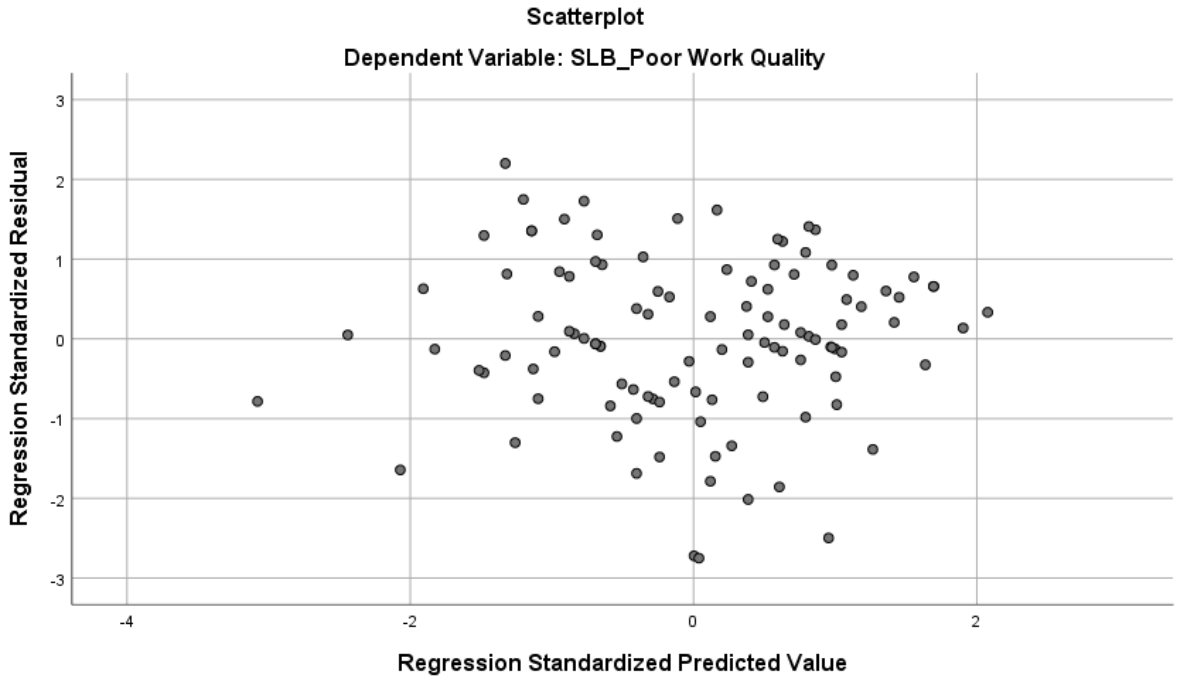

Figure D7. Regression analysis: Scatterplot of standardised residuals of poor communication skills and loafer apathy predicting poor work quality

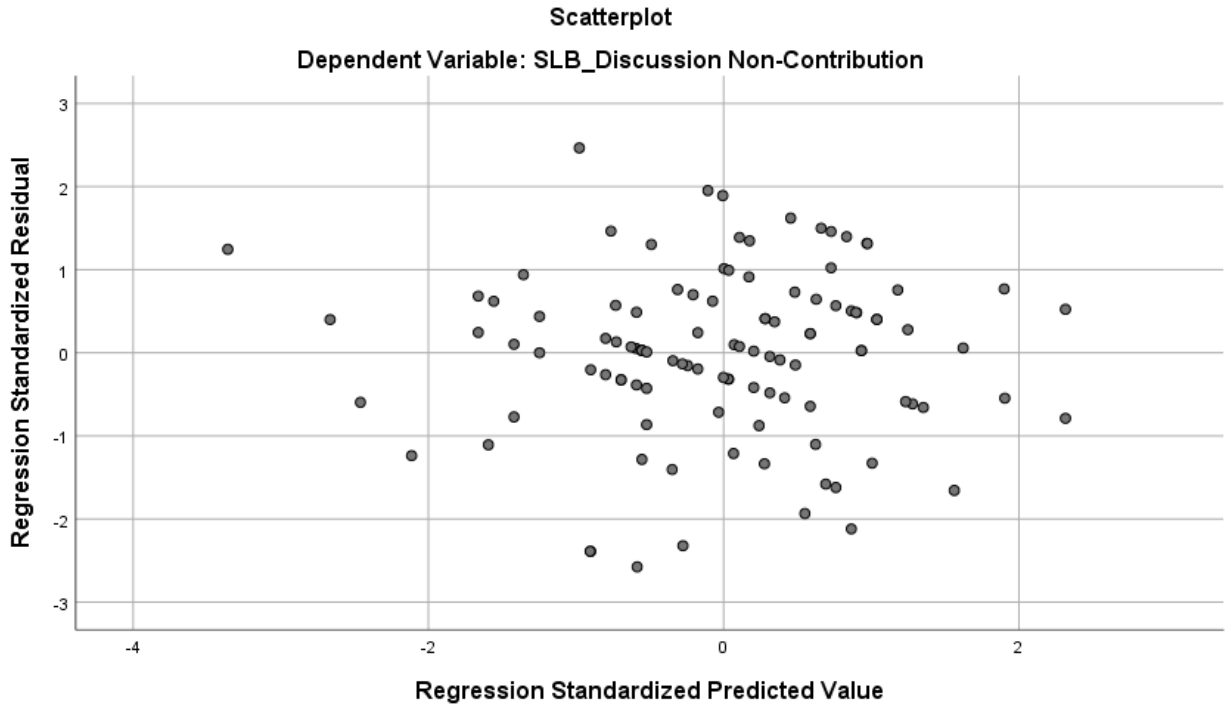

Figure D8. Regression analysis: Scatterplot of standardised residuals of poor communication skills and loafer apathy predicting discussion non-contribution.

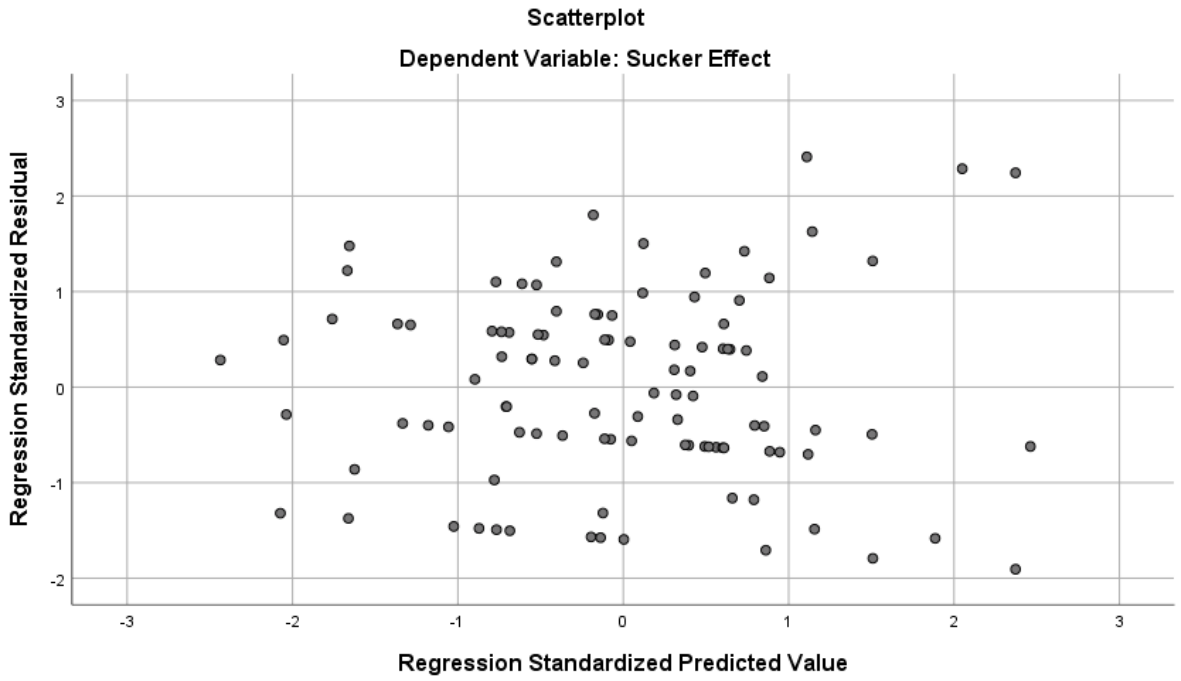

Figure D9. Regression analysis: Scatterplot of standardised residuals of the SLBs predicting the sucker effect.

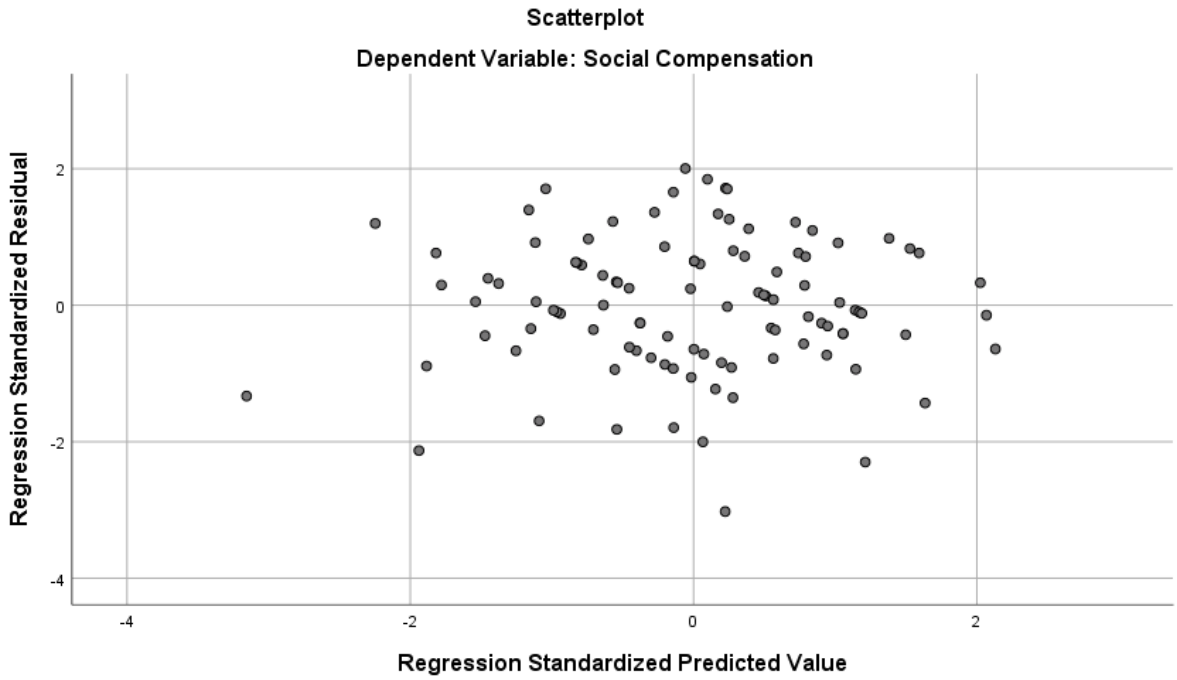

*Figure D10. R*egression analysis: Scatterplot of standardised residuals of loafer apathy and SLBs predicting social compensation.

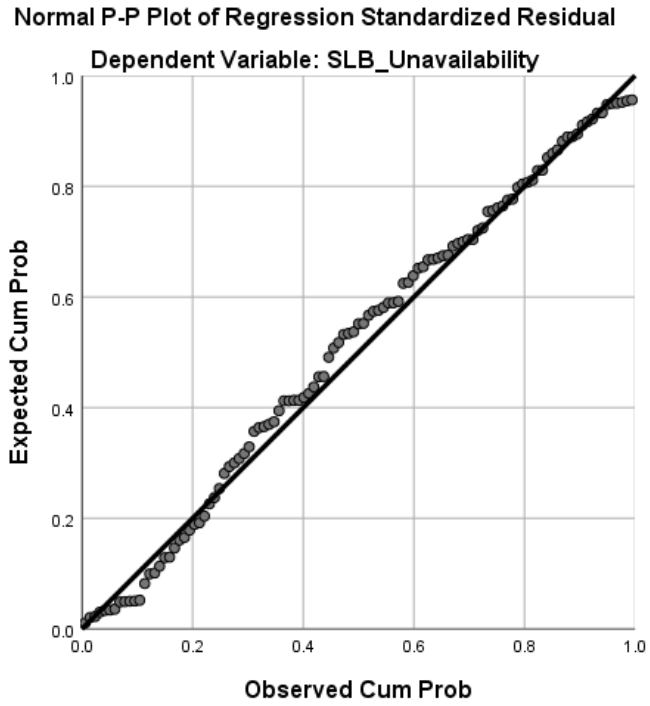

Figure D11. Regression analysis: Normal P-P Plot of poor communication skills and loafer apathy predicting unavailability.

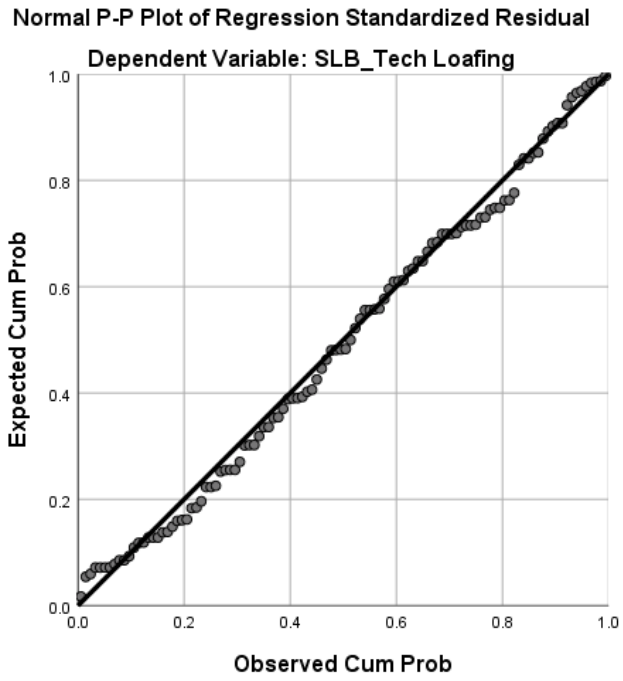

Figure D12. Regression analysis: Normal P-P Plot of poor communication skills and loafer apathy predicting tech loafing

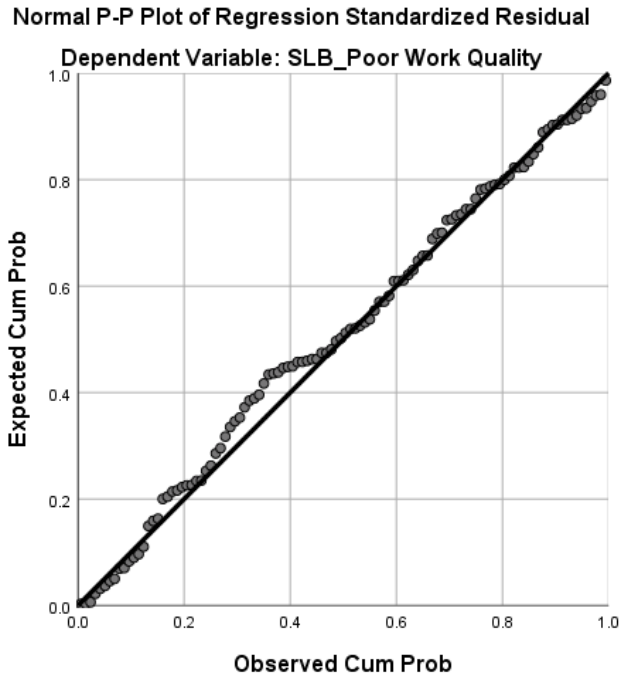

Figure D13. Regression analysis: Normal P-P Plot of poor communication skills and loafer apathy predicting poor quality work.

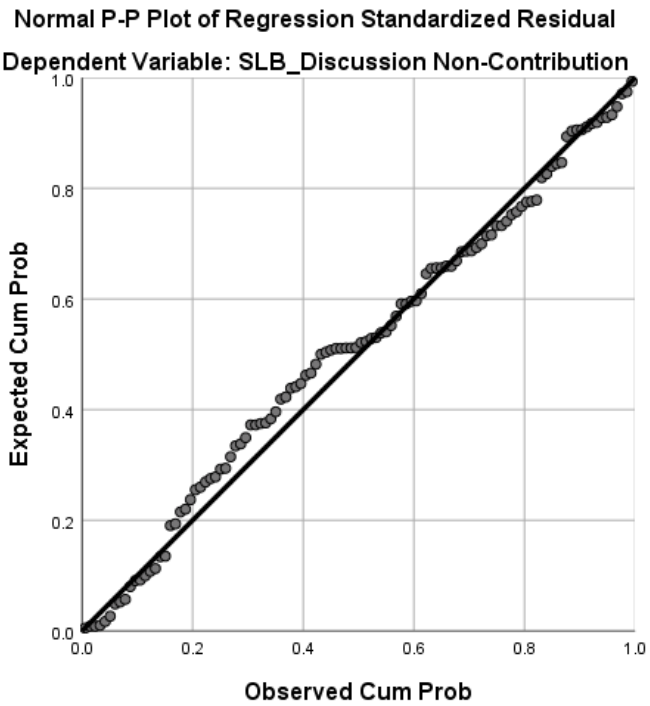

Figure D14. Regression analysis: Normal P-P Plot of poor communication skills and loafer apathy predicting discussion non-contribution.

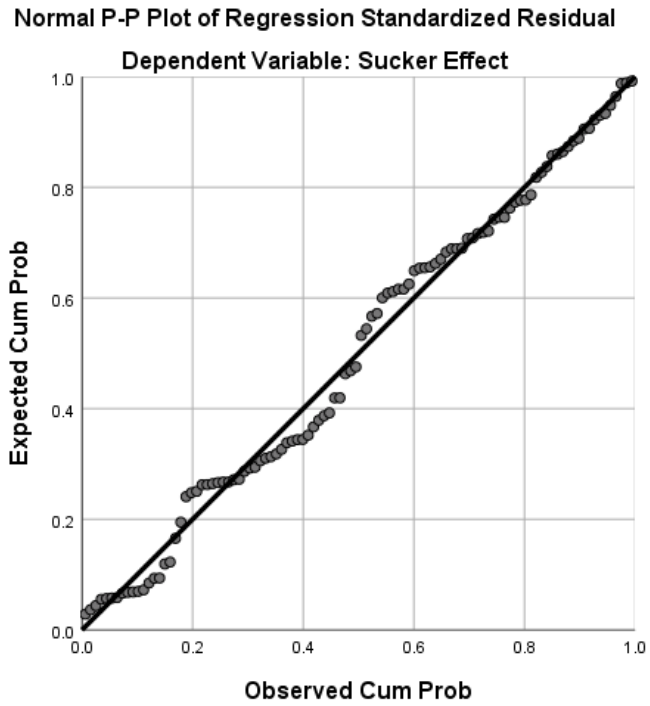

*Figure D15. R*egression analysis: Normal P-P Plot of the SLBs predicting the sucker effect.

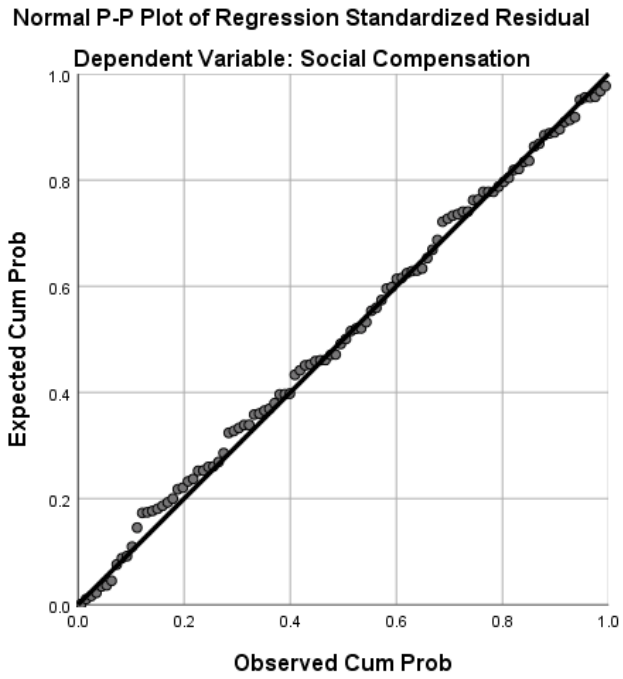

Figure D16. Regression analysis: Normal P-P Plot of loafer apathy and SLBs predicting social compensation.

Appendix E
Content Analysis

Students perceived social loafing to occur because of large group sizes (19 responses, 7.82%), laziness (13 responses, 5.35%) and lack of team leadership (23 responses, 9.47%) which was linked to unclear roles or direction within the team (30 responses, 12.35%). Social compensation was frequently referred to (52 responses, 21.40%), where the loafer knows someone will finish their work to complete the project. Students described that social loafers make situational appraisals, where they knew other members would want high marks and would contribute additional effort to maintain the team's performance.

The sucker effect was less commonly cited (8 responses, 3.29%), where students perceived that team members were not working, they would put in less effort. Limited identifiability of individual inputs was perceived as a large contributor to social loafing (47 responses, 19.34%), as students would receive the same mark and students individual work was not distinguishable from those of others team members. In conjunction with social compensation, students described that these two categories operated together to increase student's propensity to loaf.

Another prominent category which emerged related to student prioritisation (33%). Students identified that groups that are randomly assigned are composed of students from various different specialisations. Students from different course may be uninterested in the course and thus not care about their marks, leading to reduced participation. In addition, the value students place on the course may contribute to their motivation to participate and achieve high marks. Students who are taking the course as part of their major are suggested to be more motivated than those who are taking it as an elective.

Students may also have differing priorities, ranging from other course work that takes precedence to social and family activities that are more important. Those who loaf on group projects will also have more time for individual work.

Multicultural related issues were also described (26 responses, 10.70%). Differences in culture were highlighted as a reason for lower team identity, exclusion of some members, differing accesses to resources, lack of understanding owing to language differences all leading to the perception that some don't contribute. Some students even described that they felt that they shouldn't contribute. Differences in social class (race wasn't explicitly

mentioned) was also mentioned as a reason for social loafing, as some felt excluded or inferior depending on their social class, leading to lower contribution.

Diverse teams may also have different academic goals (28 responses, 11.52%) and therefore different individual motivations. Students who wish to achieve high marks may have different motivation levels from those who are only wishing to pass with a 50%. As such, they will put in different levels of effort. Those who wish to excel will add in the difference of effort. This linked to differing styles of work, where some students were motivated to get work done sooner while others left it to the last minute. The students who prefer working in advance completed all the work, leaving the other students to loaf.

Low self-esteem or confidence in their skills was also noted as a reason for non-contribution (20 responses, 8.23%), as individuals may not feel like they have anything worthwhile to give or that others can do the task better than them. The students described scenarios where social loafing occurred because previous failures lowered current enthusiasm for the group project.

The continuation of social loafing was also attributed to students desire to avoid conflict (8 responses, 3.29%). This reflected poor conflict resolution skills or desire to avoid disruption within the group. It was also mentioned in conjunction with others in the group picking up the slack for the social loafer.

Appendix F
Reliability Analysis

Antecedents to Social Loafing

The perceived reasons for social loafing scale as a whole demonstrated a good internal consistency reliability (α = .82). Table E1 presents the descriptive statistics and Cronbach's alpha values if an item were to be deleted as well as the corrected item-total correlation between items. While ANT15 had a low corrected item-total correlation of .25 (see Table E1), it was retained as it would not contribute to a large increase in the alpha value. Furthermore, it is one of three items loading on the second factor that related to the social loafer's communication skills.

Table E1

Reliability analysis: Item-total statistics for antecedents to social loafing final scale

Items	*M* if item deleted	Var if item deleted	SD if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
ANT2	28.89	36.36	6.03	.54	.80
ANT3	28.68	35.38	5.95	.53	.80
ANT4	29.27	35.41	5.95	.57	.79
ANT5	28.87	35.85	5.99	.48	.80
ANT6	28.96	35.34	5.95	.59	.79
ANT7	28.82	33.79	5.81	.67	.78
ANT8	28.93	34.61	5.88	.61	.79
ANT13	29.56	36.38	6.03	.42	.81
ANT14	29.76	37.10	6.09	.36	.82
ANT15	29.85	38.52	6.21	.25	.83

Note. N = 108 after listwise deletion. ANT = Antecedent scale.

The subscales demonstrated good internal consistency reliability values. The seven items measuring loafer apathy demonstrated a high internal consistency reliability (α = .88). Similarly, the three items measuring social loafer poor communication skills also demonstrated a high internal consistency reliability (α = .87).

Perceived Social Loafing Behaviour

Table E2 suggests that all corrected item-total correlations were above .3 and the alpha value would not increase upon the exclusion of any item. Each sub-scale demonstrated acceptable alpha values.

Table E2

Reliability Analysis: SLB sub-scale alpha values

Sub-scale	Number of items	*n*	α
Unavailability	4	115	.85
Tech loafing	3	114	.93
Poor work quality	4	116	.87
Discussion non-contribution	3	116	.73

Note. *n* = Ranged from 109 to 116 after listwise deletion.

Consequences of Social Loafing

The EFA indicated that the sucker-effect and social-compensation are two distinct consequences of social loafing. As such, their internal consistency reliability will be reported separately.

Sucker effect. The scale that measured (*n* = 107) the sucker effect demonstrated a high internal consistency reliability (α = .88).

***Social Compensation*.** The scale that measured (n = 107) social compensation demonstrated an adequate internal consistency reliability (α = .73).

Appendix G
Insignificant Moderation: Leadership Effectiveness

Table F1
Moderation analysis: Leadership effectiveness moderating the relationship between loafer apathy and unavailability

Independent Variables	*b*	*SE B*	*t*	*p*
Constant	3.43 [3.25; 3.61]	.09	38.12	$p < .001$***
Loafer apathy (centred)	.51 [.27; .74]	.12	4.26	$p < .001$***
Leadership effectiveness (centred)	.014 [-.2; .23]	.11	.13	$p = .896$
Loafer apathy x Leadership Effectiveness (centred)	.18 [-.07; .44]	.13	1.43	$p = .438$

Note. $R^2 = .16$. $n = 108$ after listwise deletion. Brackets [] contain the confidence intervals. Post-hoc power = 97%.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Table F2
Moderation analysis: Leadership effectiveness moderating the relationship between loafer apathy and social poor work quality

Independent Variables	*b*	*SE B*	*t*	*p*
Constant	3.5 [3.35; 3.64]	.07	47.16	$p < .001$***
Loafer apathy (centred)	.69 [.49; .88]	.09	6.96	$p < .001$***
Leadership effectiveness (centred)	-.003 [-.18; .17]	.09	-.03	$p = .973$
Loafer apathy x Leadership Effectiveness (centred)	.19 [-.02; .4]	.11	1.82	$p = .071$

Note. $R^2 = .33$. $n = 108$ after listwise deletion. Brackets [] contain the confidence intervals. Post-hoc power = 100%.
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Table F3

Moderation analysis: Leadership effectiveness moderating the relationship between loafer apathy and discussion non-contribution

Independent Variables	*b*	*SE B*	*t*	*p*
Constant	3.55 [3.40; 3.69]	.07	48.36	$p < .001$***
Loafer apathy (centred)	.57 [.37; .76]	.1	5.84	$p < .001$***
Leadership effectiveness (centred)	.03 [-.14; .20]	.09	.35	$p = .73$
Loafer apathy x Leadership Effectiveness (centred)	-.02 [-.23; .18]	.1	-.22	$p = .82$

Note. $R^2 = .25$. $n = 108$ after listwise deletion. Brackets [lower; upper] contain the confidence intervals. Post-hoc power = 100%.

*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Appendix H
Power Analysis for Regression

The regression analyses were subjected to a post hoc power analysis using G*Power. The statistical power represents the probability that an effect will be found when it exists (Field, 2014). Table G1 presents the statistical power results for linear regression models of antecedent's predicting SLBs. All the models demonstrated adequate power as their power values ranged from .82 to 1 and exceeded the value of .8 (Field, 2014). There was 82% to a 100% chance that the R^2 value would significantly differ from zero with the specified number of participants in each model and that an effect would be found when it existed.

Table G1

Power analysis: Statistical power analysis for antecedents and SLB

Dependent Variables	Power	F^2	*n*
Unavailability	1	.24	111
Tech loafing	.82	.1	110
Poor work quality	1	.58	110
Discussion non-contribution	1	.36	110

Table G2 indicates that the sucker effect did not have enough statistical power to find an effect if it existed. The present sample size was inadequate. This test demonstrated that the multiple regression had .16 statistical power, which means that there was a 16% chance that the R^2 value would significantly differ from zero with 103 participants (Field, 2014). Social compensation demonstrated adequate power, as its power value was 1.

Table G2

Power analysis: Statistical power analysis for consequences and SLB

Dependent Variables	Power	F^2	*n*
Social compensation	1	.5	104
Sucker effect	.16	.02	104