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Information Sharing in Self-Directed Work Groups in a Competitive Environment

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Masters in Organisational Psychology, 2011

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Declaration

A research project submitted in partial fulfilment of the requirements for the degree of MA by Coursework and Research Report in the field of Organisational Psychology in the Faculty of Humanities, University of Witwatersrand, Johannesburg, February 2012.

I declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university.

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Signature

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Date

Abstract

Self-directed work groups are a growing phenomenon in the field of organisational psychology (Kauffeld, 2006; Neck & Manz, 1994). While much is known about what factors affect information sharing in these kinds of groups, little is known about why these factors have an impact and how they relate to each other. Through the concept of hidden profiles (tasks that by nature have shared and unshared information), this study explored the information sharing and group decision making processes and aimed to illuminate the group processes involved.

The study employed a qualitative, ideographic approach where case studies were used. The sample consisted of twenty four undergraduate and postgraduate students studying at the University of the Witwatersrand divided into groups of four members each. A group task to rank the best candidate for a job was self-designed based on the theory and design utilized by Stasser and Titus (1985; 1987). This was first completed individually and then as a group – the group discussion was filmed and coded using a self-developed observation rubric. Participants also completed a self-developed post-task questionnaire regarding their perspectives of various aspects of the decision making process. The analysis was carried out using frequency counts and thematic content analysis.

It was found that all the groups discussed more shared information and more unshared negative information was discussed than unshared positive information. Information sharing increased when there was debate about which pieces of information were relevant. In most cases, group members were motivated to share information because they wanted to have their opinion heard. Although the majority of the sample stated that they did not withhold any information, there was evidence of strategic information sharing.

Group 5 made a decision that was closest to the ideal decision. Characteristics of this group that could have contributed to this included: long duration of discussion; high number of talking turns; respecting each other's talking turns; moderate levels of disagreement; no obvious role of leader; moderately high levels of group

familiarity; diversity in race not gender; similar educational backgrounds and a norm of critical evaluation.

The study found that the interactions between factors that were perceived to affect the information sharing and decision-making (such as duration of discussion, number of talking turns, group familiarity, competitive aspects, group composition and group roles) were more interwoven than previously thought.

Keywords: Information sharing; hidden profile; competitive environment; self-directed work groups; group dynamics; decision-making

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Chapter 1: Introduction and Literature Review

Introduction

Today's complex and dynamic environment has seen an increase in global competition, organisations aiming to strengthen their positions in the market and a constant need for innovation and advancement (Kozlowski & Bell, 2003). The need has also increased for varied skills, knowledge, expertise and experience and "...more rapid, flexible, and adaptive responses" (Kozlowski & Bell, 2003, p.4). These pressures have led to many structural changes, including the introduction of teams and groups as the foundation of many contemporary organisations and a move away from individually-based tasks towards more group and team-orientated tasks (Harvey, Millett & Smith, 1998; Jehn, Northcraft & Neale, 1999; Johnson, Suriya, Yoon, Berrett & La Fleur , 2002; Kozlowski & Bell, 2003).

Self-directed work groups, which are groups that work independently on a task from start to finish and have more direct responsibility in terms of decision-making, are thus a growing phenomenon in the field of organisational psychology (Kauffeld, 2006; Neck & Manz, 1994). The benefits of self-directed work groups in organisations have been widely documented, but relatively little is known of the group process at play in the initial interactions of these groups.

In each of these groups, members arrive with certain information and ideas that other members may not possess. Through the concept of hidden profiles (tasks that by nature have shared and unshared information) and information sharing, this study seeks to explore how self-directed work groups can be managed or directed to better share this 'unshared information' for the overall benefit of the team and/or individual. This is especially important in the context of a competitive environment that is fast becoming the standard environment in which groups operate in contemporary organisations. This competition between group members can be a result of individual performance bonuses, promotions or other individual-based reward systems.

A great deal of quantitative research has been done in the area of information sharing in groups (Devine, 1999; Mesmer-Magnus & DeChurch, 2009; Paulus, Larey & Dzindolet, 2001; Wittenbaum, Hollingshead & Botero, 2004). While much is known

about what factors affect information sharing, little is known about why these factors have an impact and how they relate to each other. This study aims to make a theoretical contribution to knowledge that extends beyond what factors affect information sharing and moves towards how and why various factors interact to affect information sharing. It aims to unpack the process undertaken by the group and look at why it unfolds in that specific way.

The study thus aims to contribute to knowledge by using qualitative research to build upon previous quantitative research on information sharing through unpacking the process of information sharing in self-directed work groups with the view to understanding why individuals choose to share certain information. It aims to explore what unique information is shared (positive or negative) and what motivated the individual to share that information with the group; therefore shedding light on the choices that individuals make about sharing information and why they make those specific choices. Both the decision that the group reached and the style of decision making that they employed will be examined. The aim is that the study will illuminate the group processes involved in information sharing in self-directed work groups in a competitive context. The competitive environment is a real-world context in which groups operate. This environment can influence the manner in which individuals, and in turn the manner in which groups, operate. It is important to examine the effects of the competitive environment on the group interaction as it has been found to be both advantageous and detrimental to group work depending on the scenario.

Based on extensive searches of online and published literature, it appears that this type of research on information sharing has not been carried out in South Africa therefore the proposed study will contribute to knowledge by examining the information sharing process in a different setting. It is an important study to be carried out in South Africa given the country's unique historical and cultural background, especially with regards to diversity.

The study aims to gain a better understanding of information sharing in groups with the view to contributing to knowledge and, in the future, potentially assisting with the development of better programmes to aid groups to share information and thus work more effectively.

Literature Review

Introduction

Today's working environment is complex and dynamic. It is fraught with challenges, including increasing levels of globalization and advancements in technology (Johnson et.al, 2002). Organisations are seeking to overcome the difficulties prompted by this changing environment by moving away from individually-based tasks towards more group and team-orientated tasks (Harvey et al., 1998; Johnson et al., 2002). This includes transforming previous heirarchical structures into flatter and decentralised structures that have teams and groups at the core; and placing increased value on the communication within and from these entities (Jehn et al., 1999). Working in teams and the eradication of heirachical systems in organisations are thus changes that are occuring in many contemporary organisations (Paulus et al., 2001).

These changes arise from the idea that groups are more effective than individuals at carrying out certain tasks, especially decision making and problem solving (Jehn et al., 1999; Neck & Manz, 1994; Paulus et al., 2001). Research involving small groups has largely been the focus of social psychology however research on teams and groups has recently become a prominent fixture in the field of industrial/ organisational psychology (Kozlowski & Bell, 2003; McGrath, 1997, as cited in Kozlowski & Bell, 2003).

Individuals using their various expertise and experiences in the context of a group is a growing trend but has been a cornerstone of most organisations for many years (Neck & Manz, 1994). The usage of teams in organisations is so extensive that it is the traditional bureaucratic and mechanistic designs that seem to be less popular in today's organisations (Harvey et al., 1998). The greatest benefit of groups in an organisation is that the group members can draw on each others' experiences, expertise and knowledge, innovative ideas can be refined and many mistakes can be avoided and therefore money can be saved (Paulus et al., 2001). It is also widely assumed that groups make better decisions than individuals (Kocher, Strauβ & Sutter, 2005; Neck & Manz, 1994; Stasser, 1992; Stasser & Titus, 2003).

Group work generally increases cohesiveness between group members which may lead to an increase in morale (Paulus et al., 2001). Organisations have noticed a number of benefits of work groups including: better management, better logistical organisation, superior decision making abilities than in individuals and increased acceptance of the overall decision (Kocher, et al., 2005). Members of work groups tend to be more committed to decisions that they have assisted in reaching and the decision-making process is generally viewed as being more fair (Kocher et al., 2005; Stasser & Titus, 1987). New programmes and ideas are likely to gain more support if decision-making is group-based rather than implemented on the individual level (Paulus et al., 2001).

There are also a number of benefits of working in groups for the individual which include: changes in everyday work tasks and the enjoyment of teamwork (Kocher et al., 2005). It has been shown that when individuals become part of a work group, they report higher job satisfaction in the team-based jobs (Kocher et al., 2005; Paulus et al., 2001).

Groups are therefore an essential component of contemporary organisations but they are not without disadvantages (Jehn et al., 1999). Organising or co-ordinating a group takes more time than for an individual; keeping a group motivated requires constant attention and effort; and conflict management and resolution need to be an integral aspect of group facilitation in order to ensure the smooth running of the group (Jehn et al., 1999). One of the greatest advantages of groups is the notion that different opinions from different backgrounds, cultures, viewpoints and fields of expertise can be shared to develop better solutions or decisions; this is only true if these differences are managed successfully (Jehn et al., 1999).

It should be noted that there is research to suggest that on some tasks group productivity is lower than individual productivity (Paulus et al., 2001). It is argued that this may be because it is easier to prove the negative aspects of groupwork than the positive aspects (Paulus et al., 2001). Another thought to consider is that many groups are not formed for the purpose of productivity but because the activity that they are involved in requires a group effort (Paulus et al., 2001). Often an individual's effort will decrease when only the efforts of the group are measured, this concept is

known as social loafing (Erez & Somech, 1996). Social loafing can be removed from the group context by forming groups with high familiarity levels; measuring individual efforts and performance; and setting unambiguous performance targets (Erez & Somech, 1996). This feeds into the notion of the competitive environment. A competitive environment may be disadvantageous to an organisation (for example, when group members do not work collaboratively in order to serve their individual interests) or advantageous (for example, when competition amongst group members encourages a stronger work ethic and increased performance).

Self-Directed Work Groups

There are many types of groups or teams within organisations. The terms group and team, although defined slightly differently, are often used interchangably in research that is based on a collection of individuals doing work together (Guzzo & Dickson, 1996; Hackman, 1990, as cited in Johnson et al., 2002; Kozlowski & Bell, 2003; Sundstorm, DeMeuse & Futrell, 1990, as cited in Johnson et al., 2002). Work teams and groups have been defined as groups that ": (a) are composed of two or more individuals, (b) exist to perform organisationally relevant tasks, (c) share one or more common goals, (d) interact socially, (e) exhibit task interdependencies (i.e., workflow, goals, outcomes), (f) maintain and manage boundaries, and (g) are embedded in an organisational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity" (Alderfer, 1977; Hackman, 1987; Hollenbeck, Ilgen, Sego, Hedlund, Major & Phillips, 1995; Kozlowski, Gully, McHugh, Salas & Cannon-Bowers, 1996a; Kozlowski, Gully, Nason & Smith, 1999; Salas, Dickinson, Converse & Tannenbaum, 1992, as cited in Kozlowski & Bell, 2003, p.6).

A current model of group work in organisations is that of the self-directed work group, otherwise known as the self-managing team (Neck & Manz, 1994; Yeatts & Hyten, 1998). Self-directed work groups are a growing phenomenon in the field of organisational psychology (Kauffeld, 2006; Kozlowski & Bell, 2003; Neck & Manz, 1994). This increase has sparked a great deal of research in the area of self-directed work groups and associated factors (Kauffeld, 2006). It is essential to uncover the reasons why some of these groups are successful while others experience failure (Devine, 1999).

The model of self-directed work groups emerged primarily from the socio-technical systems perspective (Neck & Manz, 1994). This perspective attempts to use the relationship between people and their environment, as well as technology, to increase production and increase the level of engagement that people feel in the process (Cummings, 1978).

Self-directed work groups are groups of people who are responsible for managing and performing the necessary functions that result in the end goal of a project being achieved or services/ goods delivered, typically on a long term basis but also possibly in the short term (Yeatts & Hyten, 1998). These groups can consist of up to approximately fifteen members and are responsible for most, if not all, of the components of their work (Yeatts & Hyten, 1998). Self-directed work groups are generally given an increased amount of independence in decision-making, role assigning, task allocating and task completion processes (Kozlowski & Bell, 2003; Neck & Manz, 1994). The group often consists of members who each have different skills, expertise or experience (Neck & Manz, 1994). Owing to this variety of skill and experience, the group are generally responsible for a project or task from start to finish with different members addressing different aspects of the assignment (Neck & Manz, 1994).

Often leaders emerge within these types of work groups, however their main goal is to facilitate self-management within the team and maintain a passive, democratic presence (Kozlowski & Bell, 2003). When the leaders of these teams take on an autocratic role it can often lead to the downfall of the team (Kozlowski & Bell, 2003). The research on self-directed work groups that have been unsuccessful generally shows poor leadership or incorrect leadership to be at the core of the problem (Kozlowski & Bell, 2003).

Research has shown that the introduction of self-directed work teams has had a profound effect on organisations. Studies indicate that feelings of empowerment, productivity, organisational commitment, quality of production and job satisfaction have all increased while employee turnover and absenteeism have both been reduced substantially (Harvey et al., 1998; Kauffeld, 2006; Kozlowski & Bell, 2003;

Neck & Manz, 1994). Research suggests that the use of self-directed work groups in organisations has led to “higher performance at less cost” (Yeatts & Hyten, 1998, p.xiv). However, this notion has yet to be statistically represented and researchers suggest that owing to the nature of self-directed work groups and the complexity of separating the effects of self-management from other factors at play in the workplace, quantitative analysis is less appropriate and the method of case studies is of more value (Yeatts & Hyten, 1998).

Case studies have shown that people in self-directed work groups have produced more work than their counterparts in heirarchical positions owing to the fact that they do not only employ technical skills but management skills as well (Yeatts & Hyten, 1998). In addition, case studies have confirmed that self-directed work groups do make better decisions as the group members are generally the people who are more knowledgable about the work (Yeatts & Hyten, 1998). As a result of being able to see the work process through from start to finish, self-directed work groups have been found to be more innovative and creative (Yeatts & Hyten, 1998).

Group members do the majority of their thinking and brainstorming in isolation from their group and then these ideas are brought together in the group environment for discussion and refinement (Paulus et al., 2001). The process of discussion may be formal or informal depending on the nature of the organisation and its current needs (Paulus et al., 2001). The process is very important to the outcome. An example is a meeting intended to solve a problem with an innovative strategy; the group members need to have the freedom to throw around any ideas that come to mind without fear of criticism, however this still needs to be harnessed into a final strategy and so a sense of formality needs to be present.

Additional benefits of self-directed work groups include: when a team member is absent, other team members can assume their role temporarily; the team members can rely on each other for assistance in highly pressurised and time sensitive situations; and the team members’ strengths can be matched with specific tasks that need to be allocated within the group (Yeatts & Hyten, 1998).

Information Sharing

Group work in organisations is centered on the need for "…exchange of knowledge among group members" (Paulus et al., 2001, p.333). The progressively more diverse working environment calls for employees to pool their resources, knowledge and information from their "heterogenous expertise and experience" (Wittenbaum et al., 2004, p.287). As the need for group-based decisions has increased in organisations, so too has the need to understand the process of information sharing (Wittenbaum et al., 2004). Information sharing is understood to be a "…central process through which team members collectively utilize their available informational resources" (Mesmer-Magnus & DeChurch, 2009, p. 535). A group that shares information is likely to make a more knowledgeable decision than a group that does not (Stasser & Titus, 1985; 1987). In order for groups to reach the optimal decision about a difficult situation, it is essential that all group members convey all shared, unshared and appropriate information (Mesmer-Magnus & DeChurch, 2009).

A clear distinction between shared and unshared information has been identified (Stasser & Titus, 1985; 1987). This distinction exists as shared information is information that all members of the group possess while unshared information is only possessed by one member of the group (Stasser & Titus, 1985; 1987). The ideal scenario is that the unshared information is discussed with the entire group, leading to each member increasing their level of information (Stasser & Titus, 1987). In instances where group members do share unshared information the group will benefit by gaining more knowledge that was previously unknown (Mennecke, 1997). A group can therefore benefit from taking each member's partial information and joining it together to form a complete view of the total information (Stasser & Titus, 1985).

Research, however, has shown that groups frequently do not share all of the necessary information required to reach the most favourable decision (Devine, 1999; Mennecke, 1997). It is suggested that to assist groups in sharing more information the group should spend more time together or make use of a facilitator to ensure all the necessary information is shared (Paulus et al., 2001). It has been found that communication and discussions between people are affected to a large extent by

their social context and friendships as well as their levels of organisational committment (Constant et al., 1994).

Research has found that "…increased information sharing could improve organisational efficiency, learning, innovation, flexibility, and understanding of organisational goals" (Constant et al., 1994, p.401). Organisations can encourage the sharing of information by cultivating a culture of good citizenship behaviour; usually this is done by providing general guidelines instead of specific rules as specific rules in this area are difficult to define and monitor (Constant et al., 1994). There are also organisations that restrict the sharing of information amongst employees to limit the risk of organisational intelligence theft, distracting employees from their assigned work and inducing role conflict (Constant et al., 1994).

Hidden Profile

Given the benefits of information sharing, a great deal of research has been done in order to try to understand what factors influence this. One common mechanism used in this research has been 'hidden profile' tasks. In a hidden profile a decision needs to be reached by deciding between various alternatives and there is shared information (that all group members possess) and unshared pieces of information (that are distributed among the various group members) (Mennecke, 1997; Stasser & Titus, 1985; 1987; Toma & Butera, 2009; Wittenbaum et al., 2004). It should be noted that none of the group members have sufficient information to reach the most favourable decision as an individual, the decision is "hidden" (Mennecke, 1997; Toma & Butera, 2009). In this sense, hidden profile tasks appropriately emulate group tasks in reality (Mennecke, 1997).

An individual may already have a preferred choice as the partial information they have received leads them in this direction (Stasser & Titus, 1985). However, in order to reach the most favourable decision (solve the hidden profile), the group members will need the essential information that is contained in the unshared information; discussion of the decision may result in this information being shared with the group or not (Mennecke, 1997; Stasser & Titus, 2003; Toma & Butera, 2009; Wittenbaum et al., 2004). Examples of hidden profile decision tasks that have been used in

research are summarised by Wittenbaum et al. (2004) and have included selecting: the best student body president candidate (Stasser & Titus, 1985; 1987); the optimal job applicant to be hired (Wittenbaum, 1998); the best drug to place on the market (Kelly & Karau, 1999); the correct diagnosis of a medical case (Larson, Christensen, Abbot & Franz, 1996; 1998); the best company to make an investment into (Hollingshead, 1996; McLead, Baron, Marti & Yoon, 1997); and the guilty person in a homicide investigation (Stasser & Stewart, 1992).

In the task, research participants are generally given their individual information (containing shared and unshared information) and required to make an individual decision; this is followed by a group discussion in which the same decision needs to be made but more information is involved as each group member brings in different unshared information (it is, however, up to the group members how much of this information is shared) (Wittenbaum et al., 2004). There are at least 23 studies that have employed this type of hidden profile scenario (with some variations) but they have found that groups do not often discover the hidden profile (decide on the best alternative) and that the groups discuss more of the shared information in comparison to the unshared information (Wittenbaum et al., 2004).

These findings are echoed in research that suggests that groups fail to reach the most favourable decision as the discussions focus predominantly on the information that is shared rather than the information that is unshared, which owing to its individuality would allow the group to compose an alternative, more favourable decision (Stasser & Titus, 1985; 1987; 2003; Wittenbaum et al., 2004). This limits the group's ability to benefit from the experience, expertise or knowledge of other group members (Wittenbaum et al., 2004). There are numerous studies that support the notion that shared information is discussed more often in groups than unshared information resulting in the group not reaching the most favourable decision (Cruz, Boster & Rodriguez, 1997; Dennis, 1996; Devine, 1999; Franz & Larson, 2002; Kelly & Karau, 1999; Lam & Schaubroeck, 2000; Larson et al., 1996; 1998; Larson, Foster-Fishman & Franz, 1998; Larson, Foster-Fishman & Keys, 1994; Lavery, Franz, Winquist & Larson, 1999; Parks & Cowlin, 1995; Savadori, van Swol & Sniezek, 2001; Schittekatte & van Hiel, 1996; Stasser et al., 1989; Stasser & Titus, 1987; Stasser, Vaughan & Stewart, 2000; Stewart & Stasser, 1995; van Hiel &

Schittekatte, 1998; Winquist & Larson, 1998; Wittenbaum, 1998; 2000, as cited by Wittenbaum et al., 2004).

Research also supports the notion that the shared information is more likely to be discussed at the start of the group discussion, as well as referred to throughout the discussion, than unshared information (Larson et al., 1994; 1996; 1998; Parks & Cowlin, 1995; Savadori et al., 2001; Schittekatte & van Hiel, 1996; Stasser et al., 1989; Winquist & Larson, 1998, as cited by Wittenbaum et al., 2004). A reason that shared information might be raised more frequently is that more people are aware of this information and can therefore discuss it (Wittenbaum et al., 2004). The propensity for the unshared information that an individual possesses to not be discussed as extensively as the shared information is known as the "common knowledge effect" (Graetz, Kimble, Thompson & Garloch, 1997). This effect is said to increase as group size increases, or as information load increases, and in information sharing activities that do not have an obvious right answer or best decision (Graetz et al., 1997).

There have been a number of strategies that have been tested to improve discussions around unshared information. Some of the successful strategies are to: type the unshared information in bold font so that it is more obvious than normal font; and to depict the unshared information in pictures rather than words (Wittenbaum et al., 2004).

It has also been found that a group's post discussion decision alternative is frequently more favourable than the group member's initial individual decision alternative (Stasser & Titus, 1985). It should be noted that the unshared information not only needs to be shared but also needs to form part of the argument towards a specfic decision alternative (Stasser & Titus, 2003). The unshared information therefore needs to contribute towards the ultimate decision.

Competitive Environment

The sharing of information as well as the tactical non-sharing of information occurs in organisations; this is often the result of a competitive environment (Toma & Butera,

2009). Researchers have found that cooperation may not be present in work groups that are instructed to work cooperatively as individuals might be too competitive (Toma & Butera, 2009). Some group members perceive their success as individuals to be directly joined to other members' success (cooperative) while others consider their success separate and often at the expense of those around them (competitive) (De Dreu, 2007).

The motivation to withhold information may stem from the notion that the unshared information may provide the holder with an individual advantage (Toma & Butera, 2009). This advantage may translate into a reward, increased status, proving one's abilities or ensuring a future strategic benefit for oneself (Toma & Butera, 2009). A competitive environment has been found to affect negotiators and decision makers; they were found to share less information, strategically withhold information or misrepresent pieces of information (Toma & Butera, 2009). These findings suggest a competitive environment may lead to deceptive or strategic information sharing in groups (Toma & Butera, 2009).

In a setting where success is determined by the number of new ideas that a person produces, it has been found that the competitive environment can be increased by pitting a person against another or a group against a set of individuals (Paulus et al., 2001). This type of competitive environment is viewed as positive as it causes increased productivity and, in some cases, group cohesion (Paulus et al., 2001). If individual productivity is encouraged in the group this will encourage competitiveness amongst the group members and therefore may introduce the desire to produce more (Paulus et al., 2001). If there is no incentive to increase the number of ideas produced, it has been found that the standard is often set by the group members who perform the worst rather than those who perform the best, which causes the group to perform more poorly (Paulus et al., 2001).

The interdependence theory proposed by Kelley and Thibaut (1978) sets out two basic interactions: the first of which is two people interacting alone while the second is of the two interacting under the influence of their social and/or organisational contexts (Constant et al., 1994). In the first situation the assumption is based on self-interest and reciprocity and suggests that the one person will help the other if help is

offered to them, or will withhold help if there is animosity or hostility (Constant et al., 1994). The theory proposes that this self-interest and notion of reciprocity can be overcome due to the social and/or organisational context (the second situation) (Constant et al., 1994).

This theory of interdependence can be extended to the area of information sharing (Constant et al., 1994). It appears that a competitive environment might not encourage information sharing and that notions of self-interest and reciprocity will prevail. Research shows that the level of information sharing is lower when there is a cost of sharing the information that is experienced by the information-giver and their interests are not served (Constant et al., 1994). This is significant for information sharing in the competitive environment as it suggests that people view information sharing as “personally costly” and a necessary “social good” that in the long term will benefit the organisation (Constant et al., 1994, p.402).

Factors that affect Information Sharing

There are a number of other factors that affect information sharing and the solving of the hidden profile. One of these factors is the primary goal of the group (Devine, 1999; Toma & Butera, 2009). If the primary goal of the group is to be cooperative in the process to achieve a common goal, then the sharing of information (including unshared information) should occur (Toma & Butera, 2009). If the primary goal of the group is not completely common and group members are in competition to achieve a variety of goals, the likelihood of unshared information being shared decreases as group members are more likely to make strategic decisions to benefit themselves before the group (Toma & Butera, 2009). This may result in a form of conflict (Devine, 1999).

It has been found that when group members have less shared information than unshared information and have a small amount of information in total for the task, it will increase the probability that unshared information will be discussed (Wittenbaum et al., 2004). It is also interesting to note that negative information is more frequently discussed than positive information, whether that information is shared or unshared is inconsequential (Wittenbaum et al., 2004).

If group members are not in agreement about which decision is the most favourable prior to extensive discussions, it increases the amount of unshared information that is discussed as well as increases the speed and comprehensiveness of the unshared information discussions; this then assists the group in reaching the most favourable decision (Wittenbaum et al., 2004). It is also well documented that the likelihood of the hidden profile being revealed is increased if one of the group members begins the task by preferring the most favourable decision alternative (Wittenbaum et al., 2004). Consequently, if a group member prefers a non-favourable decision alternative based on the information that they receive, the likelihood of the hidden profile being revealed is decreased (Wittenbaum et al., 2004). The most favourable decision is more likely as an outcome when there is a great deal of unshared information that is important and when there is disagreement about which decision alternative is the most favourable (Wittenbaum et al., 2004).

There are some task features that may also affect the level of information sharing. Research suggests that groups that rank their decision alternatives will generally discuss more information and hence reach the most favourable decision more often than groups who simply choose one most favourable decision alternative (Stasser & Titus, 2003; Wittenbaum et al., 2004). It has also been found that if the group view the task as being of high importance, it will increase the amount of time that it takes for a decision to be reached as well as decrease the speed at which information is shared, yet this has no bearing on the quantity of information that the group discusses (Wittenbaum et al., 2004). Tasks that are viewed as being more judgement-based rather than solvable (having one right answer) are less likely to result in the most favourable decision outcome and result in less shared information (Stasser & Titus, 2003; Wittenbaum et al., 2004).

One of the most common factors that affects information sharing and the discovery of the hidden profile is that of group structure and composition. Group size has been found to have an effect although the results have been inconsistent (Wittenbaum et al., 2004). Cruz, Boster and Rodriguez (1997) found that eight person groups shared more information and in turn reached the most favourable decision better than four person groups; Stasser, Taylor and Hanna (1989) found that six person groups

discussed more shared and unshared information than three person groups (this may have been because they were given more time); and Mennecke (1997) discovered that four person groups and seven person groups shared equal amounts of information (Mennecke, 1997; Wittenbaum et al., 2004). Despite the disagreement, it is argued that bigger groups appear to be better at sharing information than smaller groups (Wittenbaum et al., 2004).

Disagreement is also found in the research on familiarity amongst group members and its effect on information sharing (Wittenbaum et al., 2004). Gruenfeld, Mannix, Williams and Neale (1996) reported that higher levels of familiarity resulted in better performance on the hidden profile task, while lower levels of familiarity groups were more successful when all information was shared (Wittenbaum et al., 2004). Mennecke and Valacich (1998) reported that groups made up of members with an already established relationship discussed substantially less unshared information than groups made up of unfamiliar members (Wittenbaum et al., 2004). Kim (1997) found that existing groups with task experience shared less unshared information and therefore did not perform as well as the groups who did not possess the before mentioned experience (Wittenbaum et al., 2004). It is important to note that in all of these studies there was no difference in status amongst group members.

It has been suggested that a person's status will affect the amount of unshared information that is discussed (Stasser & Titus, 2003; Toma & Butera, 2009; Wittenbaum et al., 2004). According to research, a person with a higher status will share more unshared information than a person with a lower status (Toma & Butera, 2009; Wittenbaum et al., 2004).Although this research was conducted at the individual level, research suggests that the same holds true in group situations (Toma & Butera, 2009). Hollingshead (1996) found that groups comprising members of equal status were able to solve the hidden profile better than groups compromising of members of different statuses (Wittenbaum et al., 2004).

Gender and race are also factors that affect information sharing. It is reported that same sex groups share less unshared information than groups made up of mixed sexes (Wittenbaum et al., 2004). Research shows that women discuss less total information than men (Wittenbaum et al., 2004). It is reported that hidden profiles are

better solved by groups comprising a minority group who are informed rather than uninformed (Wittenbaum et al., 2004). Diversity in groups in theory should lead to an increased knowledge pool, but access to this may be limited by communication issues (Paulus et al., 2001).

Another factor that is said to influence group dynamics is culture. “Socially and culturally different people in a group are seen as critical in shaping interaction dynamics…” (Kanter, 1977, p.965). Social loafing is said to exist in more individualistic cultures (for example, in the United States of America) than in collectivist cultures (for example, in China) (Erez & Somech, 1996). This is because collectivist cultures generally place a greater importance on group goals than on their individual goals; the opposite is generally true in individualistic cultures (Erez & Somech, 1996). Culture also plays an important role in decision-making. One of the first researchers in this field was Barrels (1967), who identified numerous cultural factors that affect ethical decision-making including values, customs, religion, law, views on individuality and patriotism (Vitell, Nwachukwu & Barnes, 1993)

Diversity in groups is often considered an asset. A diverse group’s success in decision making is dependent on who is aware of what kind of information as well as whether that information is shared with other group members (Phillips et al., 2004). Sub-groups can form within groups for social, cultural or political reasons and this may lead to the exclusion of some members and perhaps conflict (Phillips et al., 2004). These sub-groups may be more formalised and introduced by the organisation, for example: expert groups or bringing different departments or divisions together to work on a particular task (Phillips et al., 2004).

When more shared information is discussed than unshared information, the credibility and competency of that person is increased as well as the credibility and competency of the receivers of the shared information (Phillips et al., 2004; Stasser & Titus, 2003). This encourages group members to view each other more positively but does not assist the solution of the hidden profile (Stasser & Titus, 2003).

It has also been found that a group that adopts a norm of critical evaluation encourages the sharing of unshared information and thus reaches the most

favourable decision more often than groups that adopt a consensus norm (Stasser & Titus, 2003; Wittenbaum et al., 2004). The roles that people play within the group also have an effect. Expert status of group members leads to increased sharing of unshared information and hence better decision making (Stasser & Titus, 1985; Thomas-Hunt, Ogden & Neale, 2003; Wittenbaum et al., 2004). It was also found that groups made up of experts had better recall of unshared information post discussion than groups made up of non-experts (Stasser & Titus, 2003; Wittenbaum et al., 2004).

Time plays a major role in information sharing. Studies have shown that when there is sufficient time available for the process, more information is shared (Wittenbaum et al., 2004). According to a study by Bowman and Wittenbaum (2002), decreased time pressure resulted in the solving of the hidden profile more frequently and increased information sharing in comparison to those with increased time pressure (Wittenbaum et al., 2004). This was in contrast with Kelly and Karau's (1999) study which found increased time pressure groups were more successful more often in solving the hidden profile than decreased time pressure groups (Wittenbaum et al., 2004). An interesting study by Larson (1998) showed that groups discuss shared information at the beginning of the discussion, the unshared information seems to be discussed only after all the shared information has been mentioned (Wittenbaum et al., 2004). The general research trend suggests that the longer the time period, the more information can be shared (Wittenbaum et al., 2004).

The roles that group members play can also affect the level of information sharing. There is often an individual who will play the role of the leader within the group. Research has found that members who play the role of leaders often repeat more information (both shared and unshared) than non-leaders (Stasser & Titus, 2003; Wittenbaum et al., 2004). Leadership style affects the ability of the group to solve the hidden profile: directive leaders may sway the group towards an incorrect decision while participative leaders are likely to encourage all members to express their views (Wittenbaum et al., 2004). It has been found that when the leader's need for power is low, the group members discuss more information than when the leader's need for power is high (Devine, 1999). Research has shown that groups with high levels of

group cohesion generally shared more of their unshared information with each other than groups with low levels of cohesion (Devine, 1999).

Leaders can play a number of roles that can affect the decision making process. In dialectical inquiry a leader will suggest two opposing viewpoints that will be offered to the group (Schweiger, Sandberg & Ragan, 1986). Generally a debate of the advantages and disadvantages of each ensues until ultimately a decision is reached (Schweiger et al., 1986). In devil's advocacy, there is only one viewpoint and the weaknesses of that viewpoint are expressed, often without an alternative viewpoint being suggested (Schweiger et al., 1986). It is thought that the debate around conflicting ideas will lead to better decisions (Schweiger et al., 1986). Another school of thought suggests that if a leader encourages a consensus approach, this will lead to better decisions (Schweiger et al., 1986). A consensus approach allows each group member to put forward their thoughts and discussion continues until a unanimous decision is reached (Schweiger et al., 1986).

The decision making style of the group also impacts information sharing. In some groups the members take an advocacy approach, by playing the role of devil's advocate to support their preferred decision alternative (Stasser & Titus, 1985; 1987). This approach is used even when groups are not instructed to pursue the discussion in this manner and it generally results in the decision alternative that is deemed to be the most popular rather than the most optimal, as members are inclined to promote their preferred decision alternative at the cost of excluding important pieces of information (Stasser & Titus, 1987). Regardless of decision making style, a consensus needs to be reached by the group (Stasser & Titus, 1985). It has been found that unshared information is key in consenus driven group discussions as this information is more likely to halt or maintain consensus (Stasser & Titus, 1985; 1987). It was found that unshared information is frequently discounted or overlooked when it threatens the dominant opinion of the group that is in the process of leading towards a decision (Stasser & Titus, 1985; 2003).

In line with these approaches, research has found that discussions that are more structured generally lead to more information sharing and therefore better decisions (Mennecke, 1997). Structure also ensures that the group do not make premature

and ill-considered decisions, as more structure leads to more time to examine the facts (Mennecke, 1997).

It is not surprising to note that group members who were allowed to keep possession of the task information sheet for the duration of the task shared more information than those who were required to memorise the sheet (Wittenbaum et al., 2004). This did not affect the group's ability to solve the hidden profile (Wittenbaum et al., 2004). Post tests have revealed that group members who maintain their sheets are able to remember more shared information than unshared information after the discussion (Stasser & Titus, 2003).

The Current Study

From the above, it can be seen that a great deal of quantitative research has been done in the area of information sharing in groups. While much is known about what factors affect information sharing, little is known about how these factors relate to each other and why they interact in these ways. This study aims to make a theoretical contribution to knowledge that extends beyond investigating only what factors affect information sharing and moves towards how and why these factors engage with each other to affect the group interaction. It aims to unpack the process of information sharing within small self-directed working groups in a competitive environment and look at why this might unfold in that specific way.

The quantitative research in this area has made a valuable contribution to the understanding of information sharing but it fails to examine the nuances and dynamics that are present in group interactions. This study aims to use a qualitative approach to shed more light on understanding the factors and dynamics within group interactions and how they engage with each other. The nature of group interaction is fluid and dynamic as it shifts with the group's understanding, interpretations and discussion; this notion is largely overlooked by the quantitative domain. The qualitative approach used in this study aims to address this missing element and examine the shifts, nuances and dynamics within the group interactions, to "… illuminate the subjective meaning, actions and context of those being researched" (Fossey, Harvey, McDermott, & Davidson, 2002, p.723).

The broad question of the study is therefore to explore the process of information sharing within a set of self-directed work groups working under competitive conditions and the factors that are perceived to affect this process.

Some of the specific questions that will be addressed include:

- What information is shared or unshared within the group interaction?
- What decision does the group reach?
- What factors are perceived to affect the decision to share information and how do these factors engage with each other?

- What factors are perceived to affect the final decision that the group reaches and how do these factors engage with each other?
- What role do group dynamics play in the group interaction?

Chapter 2: Methods

1. Research Design

This study employed a qualitative approach. Qualitative research "…describe(s) and explain(s) a person's experiences, behaviours, interactions and social contexts without the use of statistical procedures or quantification" (National Health and Medical Research Council, 1995; Strauss & Corbin, 1990, as cited in Fossey et al., 2002, p.717). Qualitative research is useful in broadening the knowledge base of complex fields as well as confirming results or enriching data from quantitative studies (Fossey et al., 2002). This approach was appropriate as the study aimed to unpack the group interaction process and provide descriptive data that builds upon the quantitative knowledge within the field.

Qualitative research techniques provide the researcher with the opportunity to keep the design of the study flexible which allows the researcher to adapt to information that is extracted as well as the context (Fossey et al., 2002). This technique is described as emergent (Fossey et al., 2002). This was useful in the current study as many of the themes that were investigated in the analysis emerged from the process of the group interactions.

An ideographic approach was used instead of a nomothetic approach. A nomothetic approach aims to generate laws that can be generalized beyond the specific study (Larsson, 2009). The ideographic approach looks at individual and unique findings that contribute to the field, but do not necessarily need to be generalisable to contribute to knowledge (Larsson, 2009). A definition of ideographic research that is appropriate to the current study is "the descriptive study of individuality" (von Wright, 1971, as cited by Larsson, 2009, p.30). An ideographic approach allowed the researcher to investigate specific cases or examples.

A case study approach is ideographic in nature and is often referred to as the "study of the singular, the particular, the unique…" (Simons, 2009, p.3). A "thick description" of the group interaction is developed through the themes, the environment and the understanding of the process (Stake, 2005). There are many misconceptions about

the use of case studies in research. Flyvbjerg (2006) discusses and disconfirms five of these including “(that) theoretical knowledge is more valuable than practical knowledge” (p.219) and “(that) one cannot generalise from a single case, therefore, the single-case study cannot contribute to scientific development” (p.219). It is these types of mistaken beliefs that sway some researchers away from employing this method. It has been said that the carrying out of more case studies of good quality could benefit the field of social science profoundly (Flyvbjerg, 2006). “Case studies are generally strong precisely where statistical methods and formal models are weak” (George & Bennett, 2005, p.19). It has been said that effectively examining an individual case can often provide more insight than the study of numerous examples at a more superficial level (Gerring, 2007).

There are many advantages to employing a case study approach that have been identified. The case study approach: provides the researcher with an opportunity to understand the relationship between variables and the underlying dynamics and processes at play; is frequently more closely linked to the real-world than other research methods; creates the platform to investigate the ordinary and the extra-ordinary; allows for unanticipated results to surface; and can be useful in developing concepts, frameworks and theories (Hodkinson & Hodkinson, 2001).

Unfortunately there are also a number of limitations that have been identified in research. These limitations include: the amount of data that is collected can be vast and therefore hinder analysis; can be cost and time ineffective depending on scale and area; issues around adequately communicating the multifaceted findings in a more straightforward manner; generalisability is problematic; and the role of the researcher can be questioned in terms of the study’s objectivity (Hodkinson & Hodkinson, 2001).

2. Sample and Sampling

The sample that was used in this study consisted of undergraduate and postgraduate students studying at the University of the Witwatersrand. Students are not directly representative of employees in organisations (this will be discussed

under the limitations section of this report) however, in previous research of the same nature, student samples have been used (see, for example, Toma & Butera, 2009). In addition, the nature of the task required the students to *imagine* themselves as employees. The selected sample was not intended to reflect the population of employees but rather to serve as a vehicle to examine individual case studies in order to better understand the processes at play in the group interaction.

A non-probability sampling strategy was employed for the purposes of this study. This strategy is both convenient and economical but it limits the extent to which the results of the study can be generalized. In this study, a volunteer sampling technique was employed. This technique depended on the availability and willingness of the students to participate in the research. The volunteers were divided into groups of four members each or were asked to gather a group of four members for the study.

A sample of twenty-four students was obtained through this process. These students were divided into groups of four members each, which totaled six groups. The students' ages ranged between 18 and 23 years and the mean age of the sample was 21.1 years. There were more female students who volunteered for the study (N=15 (63%)) than male students (N=9 (37%)). The sample consisted of predominantly white students (N=16 (67%)); and fewer black students (N=4 (17%)); Indian students (N=3 (12%)) and Coloured students (N=1 (4%)). The students were predominantly Honours students (N=8 (33%)); with fewer Masters students (N=1 (4%)); fourth year students (N=2 (8%)); third year students (N=5 (21%)); second year students (N=3 (13%)); and first year students (N=5 (21%)). Mostly Psychology students volunteered (N=11 (46%)); with other volunteers from Engineering (N=2 (8%)); Medicine (N=2 (8%)); Law (N=3 (13%)); Physiotherapy (N=4 (17%)); Nursing (N=1 (4%)); and Film (N=1 (4%)). The sample also contained one visually impaired student. Please see Appendix A for a graphic breakdown of the sample characteristics and Table 53 in Appendix A for a summary of the demographics of each group. This aspect will be discussed in greater depth under the results and discussion sections of this report.

3. Instruments

3.1 Demographic Questionnaire (please see Appendix F)

Information that was used for descriptive and analytic purposes was collected using a brief demographic questionnaire. This was used to gain information about gender, age, race, area of study, year of study and levels of familiarity between group members. This information was useful for describing the sample in the study and also for the purposes of exploring whether these variables played a role in the group processes that unfolded in each of the groups.

3.2 Task (Information sheet) (please see Appendix G)

It has been documented that the hiring decisions of organisations have moved away from individually-made decisions to group decisions (Mesmer-Magnus & DeChurch, 2009). A group task was self-designed based on the theory and design utilized by Stasser and Titus (1985; 1987). It required the groups to assess four candidates and select the most appropriate candidate for a particular job opportunity by rating the four candidates from most preferred to least preferred. The groups were told that this ranking would then be passed on to senior management. A competitive environment was created within the task by advising the group that the group discussion would be observed by senior management and the member of the panel that contributed the most towards reaching the final decision would be given a promotion (it was made clear that unfortunately there was only one job promotion available at that point in time.)

In a hidden profile task, research participants are generally given their individual information (containing shared and unshared information) and are required to make an individual decision; this is followed by a group discussion in which the same decision needs to be made but more information is involved as each group member brings in different unshared information (it is however, up to the group members how much of this information is shared) (Wittenbaum et al., 2004). This format was adhered to for the current study.

Traditional research on information sharing using hidden profiles requires participants to choose the best alternative/ make the best decision within a hypothetical situation (Wittenbaum et al., 2004). The current task was designed along these notions with the researcher creating a hypothetical hiring situation in which the best candidate of four needed to be selected for a particular job. In a hidden profile task the participants generally begin the group discussion with a preferred decision based on the information that they have available, this decision is often not the best decision (Wittenbaum et al., 2004). The information required to make the best decision lies within the unshared information (Wittenbaum et al., 2004). The researcher deliberately categorised certain pieces of information that she felt would change the decision of the group as “unshared information”. This required the group to discuss these pieces of information in order to reach the best decision.

In addition to the applications of four potential job candidates, group members were provided with instructions for the task which outlined the group members’ roles as members of the recruitment and selection panel and the advertisement for the job opening which detailed the key responsibilities, requirements and personal attributes that were required for the position. The instructions, job advertisement and profiles containing certain pieces of information about each candidate were therefore common/ shared for all group members.

Each group member was also given different, additional information (either positive or negative or neutral) regarding each of the candidates. Each applicant profile contained six pieces of unshared information. This information was divided between two group members (three pieces of unshared information each) and the other two group members received no additional information on that applicant. Each applicant’s profile’s additional information was distributed between different group members. Each group member received no additional information for two applicants and three pieces of unshared information for the other two applicants. This division of information is clearly labeled on the task in Appendix G.

The demographic and education details of the applicants were provided in the individual applications. This included information about the applicants’ age, gender,

qualifications, experience, personal details (marital status and number of dependents), recommendations and hobbies. As race is a controversial issue in contemporary South African employment practices, the researcher elected not to write this explicitly on the application sheets with the shared information, but rather to infer race through the names of the applicants (Rajesh Naidoo, Isabelle McIntosh, Sibu Thobejane and Johann Hennings inferred to be Indian, White, Black and White respectively).

Additional information was provided on each of the applicants and this was the section where the unshared information was placed. The additional information covered a wide spectrum of details including: pregnancy, sexual harassment claims, enjoyment of alcohol, various skills, an invalid driver's licence, health problems and character traits. Research suggests that many factors are considered within the hiring context and that discrimination exists in terms of gender, age, race, physical attractiveness, skill, health and qualifications amongst many other qualities (Cann, Siegfried & Pearce, 1981; Gringart & Helmes, 2001; Hu, 2003; Klesges et al., 1990; Raza & Carpenter, 1987). Information relevant to all of these aspects was given to the group members except for information on race (although this was inferred) and physical attractiveness.

The group members needed to read the advertisement and match up the requirements to the candidates' applications in order to decide who best suited the available position. A ranking order was then required from most preferred to least preferred. The researcher elected to have the groups rank the four candidates instead of only selecting the top candidate as it has been found that groups that rank their decision alternatives have a propensity to share more information and therefore have a greater chance of solving the hidden profile (Wittenbaum et al., 2004). This also seemed more in line with natural hiring practices in the workplace.

In a traditional hidden profile none of the group members have sufficient information to reach the most favourable decision as an individual, the decision is "hidden" (Mennecke, 1997; Toma & Butera, 2009). The best decision according to the researcher, at the time of developing the task and based on all the information having been shared, is tabulated below.

Table 1: Researcher's best decision ranking order

Rank	Applicant Name
1	Rajesh
2	Isabelle
3	Johann
4	Sibu

In the classical hidden profile task, in order to make this best decision, the unshared information needs to be shared. The shared information assists in making this decision but the unshared information holds a great deal of insight that is essential for reaching the best decision or "solving" the hidden profile. This holds true for the current study. It is noted that in the designed task the group members might have selected the best decision despite not having all the information. This might happen because the group members placed a greater emphasis on specific information such as education and experience and therefore would favour the applicants in the same order (by chance) as the best decision.

It should be noted that while the task did follow the format of a traditional hidden profile to some extent and held certain aspects constant, it differed in that the intention of the study was not quantitative and the aim was not to strictly control specific variables, but also to create a 'natural' scenario in which individuals of a team might have different information about specific candidates and choose how and when to share this. For this reason, certain aspects, such as how an ideal solution could be reached, were not as strictly controlled and the scenario was also developed to reflect certain real-world elements of hiring situations. There has been a great deal of research that has been done using the hidden profile paradigm or a variation of it (Wittenbaum, et al., 2004). The researcher believes that the design of the task is a variation of a hidden profile that falls within the paradigm and is of an effective design for this specific context and purpose.

There were a number of factors that were controlled for in the group interactions, including: the competitive environment aspect was built into the task for all groups (although it appears that this was not experienced by the group members as strongly

as the researcher desired); all groups were asked to rank their decisions from most preferred to least preferred; the size of the groups was kept constant (four members); all groups were given the same amount of time (20 minutes) for the discussion; all groups received the information in the same format, written (except for the visually impaired student who was read the information); and all participants were allowed to keep possession of the information sheet throughout the discussion (barring the visually impaired participant who had access to the sheet being re-read when required). There is an underlying tension between having a fairly strictly controlled and developed experimental task versus a qualitative study and the almost competing demands of these two. The researcher believes that the designed task balanced these well as it was sufficiently controlled to allow for comparison but it was also flexible enough to allow for a somewhat naturalistic feel.

3.3 Observation Rubric (please see Appendix H)

The aim of observation as a qualitative research method is to view certain behaviours and events, and to then record these in some form (Wheelan, 2005). This study employed a technique known as overt observation which means that the participants were aware that they were being observed, and in this case video recorded (written permission from each participant was obtained for this).

A concern of the researcher was that of the Hawthorne effect. The Hawthorne effect occurs when participants' behaviour is altered owing to the presence of the observer/ researcher during the group process (Wheelan, 2005). It was hoped that the group members would adjust to being filmed in the initial stages of the process which involved the completion of the demographic questionnaire and the introduction to the task. The researcher began filming as soon as all four participants were present. In today's society many social events are filmed or captured on camera (Wheelan, 2005). It was felt that this exposure assisted in minimising the Hawthorne effect as far as practically possible.

In order to analyse the video footage of the group interaction, an observation rubric was self-developed. The observation rubric was used to record factors relating to the

group process, type of information shared and the decision made. The rubric looked at: type of information (positive/ negative/ shared/ unshared) that was shared by each member; the number of talking turns per person; what leadership approach was employed; the roles of the group members; the structure of the discussion; whether the expertise of any group member was mentioned; the actual ranking of the group's decision; the researcher's views on the consensus around the decision; and any additional field notes by the researcher.

3.4 Post Task Questionnaire (please see Appendix I)

A questionnaire was self-developed that was filled in by each group member after they completed the group task. The questionnaire intended to gain information about the participants' perspectives of the process. The questionnaire was comprised of a few yes/no questions followed by an open-ended explanation of each of the answers. The questionnaire also included a few open-ended questions that the researcher used to elicit as much information as possible.

The questionnaire investigated: what information the participant viewed as most important to share and why they thought this; what motivated the participant to share any information; what (if any) information the participant withheld and why; as well as looking at the participant's satisfaction with the final decision, the group interaction and the contribution of all the members. The answers from the questionnaires were analysed in conjunction with the video footage of the interaction. Specific questions relating to the competitive environment were not included as it was felt this might bias participants' responses or create expectancy effects. This meant that any references to the competitive aspects could only be judged if this was raised by the participants themselves and while this avoided bias, it therefore also made it difficult to judge the efficacy of the scenario.

4. Procedure

Once permission to conduct the study was obtained from the Human Research Ethics Committee of the University of the Witwatersrand (ethics number: MORG/11/004 IH), the researcher approached heads of departments, course coordinators and/or lecturers as necessary to obtain permission to approach classes briefly at the beginning or end of lectures. The researcher then approached various students on campus verbally for five minutes at either the beginning or end of class. Interested students were provided with the cover letter (please see Appendix B) and the contact form (please see Appendix C). The cover letter detailed the purpose and duration of the study, the student's right to participate in the study or not, confidentiality, contact details of the researcher, the process of how to consent to participate and details on how the results would be reported.

The researcher asked each student that volunteered to select as many timeslots as possible out of the options provided on the contact form that best suited their schedule. Once the student had agreed to participate in the research by completing the contact form (please see Appendix C) and placed it in either of the boxes provided (one box in the lecture venue of the class that was approached for approximately fifteen minutes after class and another box in the Psychology Office in the Umthombo building on East Campus). The researcher then contacted the student using the details provided to confirm a suitable meeting time. These times were matched up in groups of four participants. Where this was not possible, the researcher requested that the student assist with locating other volunteers that would be available at the specified time. The group interactions took place in a private location on campus.

On arrival at the location at the agreed time, the student met the other three members of their group. Each participant was given another copy of cover letter (please see Appendix B) and asked to complete the consent and confidentiality sheet (please see appendix D) and the video-recording consent form (please see Appendix E) and sign them if they agreed to the conditions. The consent and confidentiality sheet requested consent to participate and permission to use the participant's direct quotations from both the video and the questionnaires; it also

requested that the participants did not discuss the research with anyone outside of the room to ensure confidentiality.

After completing these forms, video recording began. Each student was assigned a colour (red, green, blue and yellow) and was provided with a scarf of that colour for the duration of the group interaction. The students were asked to complete a demographic questionnaire and rate their level of familiarity with each of the other group members by referring to their colours.

This was followed by a brief introduction and list of instructions for the task that included: no reading the information sheets aloud, no showing the information sheet to other group members; and permission to verbally discuss all information given in that information sheet. The information sheets were then handed out (colour coded to ensure accuracy in recording the data). The participants were asked to read their information sheet and write down their individual decision on the demographic questionnaire. These questionnaires were then collected.

The group then engaged in a discussion around making a decision as required by the task. It should be noted that the condition of competitive environment was built into the task by instructing the group that they were being observed by higher management and the person who contributed the most to the overall decision was likely to receive a promotion in the organisation. The group was given a maximum of twenty minutes to reach a decision.

Once a group decision was reached, the video recording stopped. The students were asked to complete a questionnaire individually. The questionnaire asked some open-ended questions (for example, which information was viewed as most important) as well as more direct ‘yes or no’ questions with an explanation (for example, whether participants were satisfied with the group decision or not).

After completion of the questionnaire, the students were thanked for their participation. This signalled the end of the interaction.

5. Self-reflexivity

The researcher was involved in the process of the group interaction and therefore needed to be aware of her presence in the process (Stake, 2005). Self-reflexivity was highly important to ensure accuracy in the analysis (Stake, 2005). The researcher kept a self-reflexive journal throughout the process that contained all emotions, thoughts and issues related to the research process. When analysing the data for the report, this journal was consulted to ensure that any personal reflections in the analysis were noted and taken into account.

The most important aspect of qualitative research is to ensure that the information that is reported is accurate in terms of the participant's standpoint and that it reflects an authentic representation that is not influenced (or as little as possible) by the researcher's beliefs and context (Fossey et al., 2002). Fossey et al. (2002) suggest criteria that can be used to assess qualitative research. These are divided up into two categories: methodological rigour and interpretive rigour. Methodological rigour involves criteria of congruence, responsiveness to social context, appropriateness, adequacy and transparency. These criteria refer to the research design, sample, data collection and data analysis. Interpretive rigour looks at criteria of authenticity, coherence, reciprocity, typicality and permeability. These criteria consider the presentation of the findings, the interpretation of the findings, data analysis and the written report (Fossey et al., 2002). Wherever possible, steps addressing these criteria were implemented throughout the course of this research (please see Table 52 and Table 53 in Appendix K).

6. Ethical Considerations

The researcher adhered to the guiding principles as set out in The Professional Board for Psychology's Ethical Code of Professional Conduct which includes the South African Constitution and Bill of Rights. Institutional approval was obtained from the University of the Witwatersrand Human Research Ethics Committee (Non-Medical) (PROTOCOL NUMBER: MORG/11/004 IH - please see certificate in Appendix J) prior to approaching any of the students to invite them to participate in

the study. Acceptance to participate in the study was obtained from the individual students. The researcher ensured that no harm came to the participants in the process of the study and that all the anticipated risks were managed appropriately. In this specific study the researcher ensured that the participants consented to the group interaction being video-taped. This consent was confirmed in writing.

The researcher covered a number of ethical considerations in the letter of consent including detailing the purpose and duration of the study, the student's right to participate in the study or not, confidentiality, contact details of the researcher and the process of how the results would be reported.

The cover letter invited the students to participate in the study and informed them that participation was completely voluntary and that they would not be advantaged or disadvantaged in any way for choosing to take part or not. The students were approached verbally and if they were interested, they were provided with the cover letter. They were asked to read the cover letter and decide if they would like to participate in the study. Completion of the contact form and placing it in the box provided, as well as arrival for participation in the actual discussion, were considered as consent to participate in the research. There were two boxes and the forms could be placed in either of these. The student was asked to discard the letter if they chose not to participate.

All of the responses were kept confidential, and no information that could identify the student was included in the research report. The group interaction material (videotapes) was not seen or heard by any person other than the researcher and supervisor at any time, and the transcripts and other data were only processed by the researcher and her supervisor. Permission to use participants' direct quotations (both video and questionnaire quotations) was asked for through the use of a confidentiality sheet (please see Appendix D). The materials have been stored in a secure location that only the researcher has access to. As responses are confidential, analysis of the data was only carried out on the results as a whole and therefore no individual feedback can be provided. The results will be written up in a full report and a summary of the results will be placed on the notice board in the Department of Psychology and can also be provided on request.

Chapter 3: Data Analysis and Exploration of Task Characteristics

Data Analysis

As the task, questionnaires and rubric were self-developed it was necessary to conduct a pilot study. The task was initially piloted using four Masters in Organisational Psychology students at the University of the Witwatersrand. The decisions of the Masters students assisted the researcher in developing the 'best decision' ranking that was used in the study. The first group that was used in the study also served as a pilot group and fortunately no changes to the task, questionnaires or rubric needed to be made. The first group, although considered a pilot group, were also analysed as part of the actual research study.

Researchers suggest that observational recording forms be used to capture observed data when there is a great deal that needs to be recorded to be analysed at a later stage (Bickman, Rog & Hedrick, 1998). In this study there was a vast amount of video footage of the group interactions that needed to be analysed. An observation schedule was self-developed to assist in recording these observations (please see Appendix H).The researcher recorded the observations and then reviewed the video footage and associated notes to ensure accuracy in the recording process. A self-developed questionnaire was also used to collect demographic data as well as information regarding the participants' perceptions and reflections on the process.

Frequency counts and thematic content analysis were used to address the research questions in the study. Frequency counts were used when a numeric tally of the information was needed (for example: how many times did red speak?). These types of counts were useful for gaining a feel of how often certain actions/ factors occurred.

Thematic content analysis was also used. This is a qualitative research tool that allows the researcher a degree of flexibility and yields a vast amount of detailed and multi-faceted data (Braun & Clarke, 2006). The process that was used followed the procedure outlined by Braun and Clarke (2006). It was especially helpful when labeling, examining and investigating patterns and themes within a set of data to

generate a detailed description. Thematic content analysis is extensively used in qualitative research. It begins when the researcher identifies “patterns of meaning” within the data and any other ideas that are related to the research (p. 86). Coding, analysis and writing are a cyclical process in thematic content analysis (Braun & Clarke, 2006). The researcher identified themes that emerged in each of the groups and compared them to one another as well as indentified themes that emerged across all of the groups. It was these themes and how they engaged with one another that provided the backbone for the analysis.The researcher also returned to her notes and the videos repeatedly when writing up the analysis, thus ensuring a comprehensive and cyclical review of the data.

Both frequency counts and thematic content analysis were used to address the primary research questions in the study, such as:

- What information was shared or unshared within the group interaction?
- What decision did the group reach?
- What factors were perceived to affect the decision to share information and how did these factors engage with each other?
- What factors were perceived to affect the final decision that the group reached and how did these factors engage with each other?
- What role did group dynamics play in the group interaction?

The analysis is structured in a unique way. First the process of each group’s interaction will be examined on an individual basis including what information was shared and what decision was made as well as any interesting observations relating to the process. This will be followed by an analysis across all six of the groups that will highlight trends, similarities and differences.

Exploration of Task Characteristics

The task was initially piloted using four Organisational Psychology Masters students at the University of the Witwatersrand. The rationale behind using Masters students in the pilot study was that it was assumed that these students would have a certain amount of knowledge and experience in the field of the task, namely, hiring decisions; however seeing as the task would be used with students it was

appropriate to use them as they were still students themselves. The pilot study revealed some interesting information, especially in terms of the categorisation of the information into positive, neutral and negative categories and the rank ordering of the decision.

Categorisation of Information

The researcher had initially categorised the information into positive, negative and neutral information. She believed that all the groups would view the pieces of information in the same manner as she did. The pilot study revealed that her assumptions of the nature of the information were incorrect; and that the information categories were not standardised but rather context- and person-specific. How information was discussed or interpreted affected how that information was categorised. It became apparent that information was not static and that it could change depending on the context. One could follow the development and transformation of information between the categories by examining the nuances and underlying meanings of what was said, instead of simply calculating frequency counts.

This realization caused the researcher to reflect on the boundaries of the qualitative paradigm in which the study was located. In some aspects the qualitative paradigm exposed the weaknesses of the quantitative paradigm. Had this study been done in the quantitative domain a great deal of information would have been lost or overlooked. It became clear that the design of the hidden profile may not allow the dynamics that are at play within the group to be captured completely within the quantitative domain. Quantitative research tells a useful story but it fails to illuminate the entire story. Qualitative research sheds light on the nuances, and allows the researcher to critically examine the dynamics and assumptions that exist within the task and the group interaction, thus entrenching the nature of the data collected. The traditional hidden profiles research and literature has assumed that certain information would be received statically and has analysed from that assumption, thus possibly overlooking the possibility of fluid interpretation and raising a possible concern with the findings reported in the literature.

Based on the observations above, the researcher elected to provide tables that depict how the information was originally classified by the researcher and how this information was interpreted or discussed by each of the groups.

Rank Ordering and Best Decision

The pilot study also revealed that there were discrepancies between the rank order of hiring assumed by the researcher and those of the Masters students (please see Tables 4 and 5 below). The shared information was piloted to have an understanding of what decisions were likely if the groups failed to share any information.

Table 2: Ranking of decisions with shared information only by researcher and Masters students

Rank	Researcher	MA student 1	MA student 2	MA student 3	MA student 4
1	Isabelle	Johann	Isabelle	Isabelle	Rajesh
2	Rajesh	Isabelle	Rajesh	Rajesh	Isabelle
3	Sibu	Sibu	Johann	Sibu	Johann
4	Johann	Rajesh	Sibu	Johann	Sibu

Table 3: Ranking of decisions with shared and unshared information by researcher and Masters students

Rank	Researcher	MA student 1	MA student 2	MA student 3	MA student 4
1	Rajesh	Johann	Rajesh	Isabelle	Johann
2	Isabelle	Isabelle	Isabelle	Johann	Isabelle
3	Johann	Sibu	Johann	Sibu	Sibu
4	Sibu	Rajesh	Sibu	Rajesh	Rajesh

There were a few differences evident in the ranking orders. This led the researcher to move away from her individual best decision and rather to combine all the decisions of the pilot study into a revised best decision. The groups' decisions were therefore assessed against the decision that developed out of the 'shared and unshared' information as this is what the task required the groups to use to make their decisions (although the amount of shared and unshared information in each of

the groups varied). Based on the pilot study rankings the ‘best decision’ (as it will be referred to for the remainder of the report) is represented as:

Table 4: Best decision ranking

Rank	Applicant Name
1	Isabelle
2	Johann
3	Rajesh
4	Sibu

In a traditional hidden profile there is a definite best alternative that is said to solve the hidden profile (Stasser & Titus, 2003). There have, however, been studies that have varied the degree of solvability of the task (Laughlin, 1980, as cited in Wittenbaum et al., 2004). The current study’s task is in line with these variations and has shifted away from the traditional notions slightly as it it takes into account the fact that various amounts of information are discussed by each of the groups; the information can be interpreted in different ways (as discussed above); and that perhaps even the task was perceived in a slightly different way between groups. This was done partly to reflect a more realistic scenario in line with real-world experience, thus allowing the researcher to gain greater insight into the decision-making process, rather than simply assessing whether the best decision was made.

Chapter 4: Observed Behaviour in Each Group

As each individual group serves as a separate vehicle for unpacking the process of information sharing, the demographics and group dynamics of each individual group will be discussed as well as what information was shared and what decision was reached by each group.

Group 1

The task had been piloted on the Masters students as individuals but not in a group context. Group 1 served as the pilot study for the task being used in groups.

Group Characteristics

Table 5: Demographics and familiarity ratings for Group 1

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	M	20	White	Engineering	1	NA	3	10	1
Yellow	F	23	Black	Psych	2	1	NA	8	1
Blue	F	22	White	Psych	3	10	8	NA	1
Green	M	21	Black	Psych	2	1	4	1	NA

Familiarity was scored on a rating scale of 1-10 where a score of 1 indicated that the students had never met and a score of 10 indicated that they were good friends or family.

Group one was comprised of two males (one white and one black) and two females (one white and one black). Three of the group members were Psychology students, while one of the group members was an Engineering student. The average level of group familiarity was calculated in the following way: each participant rated their familiarity with the other three group members individually on a scale of 1 to 10. These three scores were then added together. This total was then combined with the other three group members' totals and divided by four to provide an average across the group members. The range for the group familiarity average was between 3 and 30. A score of 3 reflects that the group had never met while a score of 30 suggests that the group were good friends or family. The average level of group familiarity for all of the groups was calculated in this manner and can be interpreted in this way. Group One's average level of group familiarity was 12.25, which was the lowest

across all six groups. This level indicates that the group members were mostly unfamiliar with each other.

The student known as Yellow in this group was visually impaired. This was unexpected and unplanned for by the researcher. The nature of the task required the group members to read the information that they were given; this was not possible for this participant. The researcher read the task information to Yellow out of audible range of the other group members; and read the questions and scribed the answers for the post-task questionnaire. The remainder of the task continued as normal.

Information that was discussed and decision that was reached

The group discussed less than half of the shared information (35%); none of the unshared positive information; just under half of the unshared negative information (43%); and none of the unshared neutral information (0%).

Table 6: Shared information for Group 1

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	No	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	Yes	-
Recommendations	-	Yes	-
Hobbies	-	No	-
Rajesh - good communication skills	Positive	No	N/A
Rajesh - arrives early	Positive	No	N/A
Rajesh – takes responsibility	Positive	No	N/A
Isabelle - good leadership ability.	Positive	No	N/A
Isabelle – a lot of experience	Positive	No	N/A
Isabelle – excellent time management	Positive	No	N/A
Sibu - works well in groups.	Positive	Yes	N/A
Sibu - financial knowledge/ management excellent.	Positive	No	N/A
Sibu – extrovert	Neutral	Yes	Positive
Johann - people-person with passion and integrity	Positive	No	N/A
Johann – excellent knowledge on software	Positive	No	N/A
Johann - driver's licence renewal	Negative	No	N/A

Table 7: Unshared positive information for Group 1

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	No	N/A
Isabelle - charismatic and successful	Positive	No	N/A
Isabelle - talented project manager	Positive	No	N/A
Isabelle - excellent mediator and speaks four languages	Positive	No	N/A
Isabelle - perfectionist	Positive	No	N/A
Sibu - well liked and centre of attention.	Positive	No	N/A
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	No	N/A
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	No	N/A
Johann - hard worker who is dedicated	Positive	No	N/A

Table 8: Unshared negative information for Group 1

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	Yes	Negative
Rajesh - takes undeserved credit	Negative	No	N/A
Isabelle - currently pregnant	Negative	Yes	Negative
Sibu - alcohol after work	Negative	No	N/A
Sibu - does not like technology.	Negative	Yes	Negative
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	No	N/A

Table 9: Unshared neutral information for Group 1

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	No	N/A
Rajesh - owns a holiday house	Neutral	No	N/A
Isabelle - plans to study MBA	Neutral	No	N/A
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

Most of the members were motivated to share information so that they could "…have a say in the ranking of applicants" (Group 1, Blue, Questionnaire). Yellow stated that she did not share information and withheld important points "…because it would change the direction of the discussion" (Group 1, Yellow, Questionnaire). The group

mostly believed that they had shared all the relevant information, except Yellow (discussed later). “I might have had some info that others may not have but I feel I shared what I thought was important” (Group 1, Blue, Questionnaire). It is interesting to note which pieces of information the group members felt were important.

In the post-task questionnaire the group members were divided on what information was of the most importance. Two members suggested that qualifications and experience were the most important while the other two members believed that the additional information provided the most insight. Red said that he believed that telling the group about Rajesh’s alleged sexual harassment incident was the most important. The age of the candidates was brought up a number of times in the discussion. It was raised that the sexual harassment incident involving Rajesh was ‘alleged’ but this information still remained negative.

The unshared information that had the greatest impact on the overall decision was the alleged sexual harassment incident linked to Rajesh and Isabelle’s pregnancy. Blue stated that her decision changed when she received more information from other group members.

Table 10: Ranking of decisions – individual and group for Group 1

Rank	Red	Yellow	Blue	Green	Group
1	Sibu	Isabelle	Rajesh	Rajesh	Sibu
2	Isabelle	Rajesh	Sibu	Sibu	Rajesh
3	Rajesh	Sibu	Johann	Isabelle	Isabelle
4	Johann	Johann	Isabelle	Johann	Johann

It is interesting to note that all the individual decisions were different to each other and different to the group decision. There was not one viewpoint that was favoured initially and then became the final decision; the ranking of the group’s decision was developed through discussion. The group began by ranking the applicants from the bottom up and used a process of elimination to narrow down their choices and eliminate the weaker candidates. The group’s decision was based primarily on the fact that Johann was too old for the job and therefore he was ranked fourth. The group then ranked Isabelle third as they were concerned about the extent of her

experience and that she was pregnant so would be taking maternity leave soon. The group established that the top two positions were for Rajesh and Sibu and decided to rank Rajesh below Sibu because of the alleged sexual harassment incident.

Group dynamics

- Process

The group's discussion lasted approximately six and a half minutes (the shortest duration of discussion of all the groups). They reached an agreement on the decision ahead of the time limit. No plan was set out at the start by the group members and there was not designated time for each member to talk. The group members did not struggle to begin the initial discussion, as the leader (Green) headed the discussion and began talking. The group members did not talk over each other and respected each other's talking turns.

A predominantly consensus approach was adopted however not all members were in agreement with the decision (specifically Yellow). In the post-task questionnaire Yellow stated that she was unhappy with the group's decision but did not speak up because she felt she had to agree with everyone. All group members were satisfied with each other's contributions to the discussion. It appears that allowance was made for Yellow's disability as although she played a more passive role in the discussion, the group members still acknowledged the contribution that she did make and viewed it as equal to other members and their own. All members played an active role except for Yellow who played a more passive role (please refer to turn taking). Yellow was exceptionally quiet in the group discussions but more vocal in the post-task questionnaire. In the questionnaire Yellow revealed that she was scared to talk and "also withheld stuff as I was worried that I had not remembered it correctly. My memory, you know." (Group 1, Yellow, Questionnaire).

- Leadership

The expertise of any of the group members was not discussed. Green emerged as the leader of the group. There was no resistance to Green as a leader and the group members accepted Green taking on the leadership role. Interestingly, in the post-task questionnaire Red, Blue and Yellow all agreed that Green was the leader, while

Green stated that no leader emerged and that everyone contributed equally. Green may have shied away from naming himself as the leader because he felt that it was inappropriate to do this amongst people that one has never met or perhaps he viewed this as the socially acceptable response to the situation.

- Turn-taking

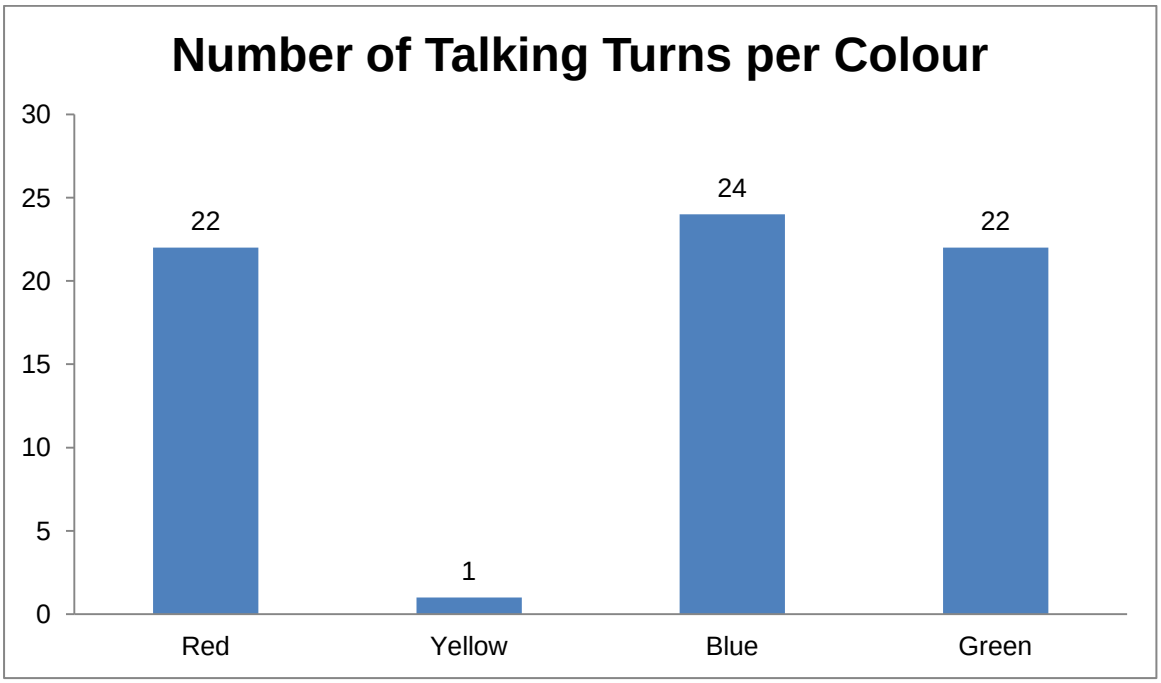


Figure 1: Number of talking turns per colour for Group 1

It is interesting that Blue spoke more than any other group member but was not seen as the leader of the group. Clearly talking more often did not lead group members to view that as leadership. Green (seen as leader) spoke less but spoke for longer periods of time and made contributions to the discussion that were seen to lead the group. For example, Green was the group member who initiated the discussion and who drew the discussion to a close by asking each of the group members for their final ranking of the candidates. Red played an active role while Yellow clearly played a more passive role. Yellow's disability may have played a role in influencing the group interaction as she did not have the confidence to contribute to the discussion which would have limited the amount of information that was shared in the group's interaction and potentially affected the decision-making as well.

Group 2

Group Characteristics

Table 11: Demographics and familiarity ratings for Group 2

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	M	22	White	Medicine	4	NA	9	9	9
Yellow	M	22	White	Law	3	10	NA	10	10
Blue	M	20	White	Law	3	8	9	NA	6
Green	M	23	White	Law	4	7	9	7	NA

Familiarity was scored on a rating scale as discussed for Group 1.

Group Two was made up of four white males. Three of the students were law students while one was a medical student. Three of the students were above the mean age for the study. Group Two were found to have the highest average level of group familiarity, specifically 25.75. This indicates that the group members were close friends or family. Yellow appeared to be the most familiar with the other students.

Information that was discussed and decision that was reached

The group discussed a substantial amount of the shared information (65%); approximately half of the unshared positive information (55%); almost three-quarters of the unshared negative information (71%); and very little of the unshared neutral information (16%).

Table 12: Shared information for Group 2

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	Yes	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	Yes	-
Recommendations	-	Yes	-
Hobbies	-	Yes	-
Rajesh - good communication skills	Positive	No	N/A
Rajesh - arrives early	Positive	No	N/A
Rajesh – takes responsibility	Positive	No	N/A
Isabelle - good leadership ability.	Positive	Yes	Positive
Isabelle – a lot of experience	Positive	Yes	Positive
Isabelle – excellent time management	Positive	No	N/A
Sibu - works well in groups.	Positive	Yes	Negative (not a leader)
Sibu - financial knowledge/ management excellent.	Positive	No	N/A
Sibu – extrovert	Neutral	Yes	Positive
Johann - people-person with passion and integrity	Positive	Yes	Positive
Johann – excellent knowledge on software	Positive	No	N/A
Johann - driver's licence renewal	Negative	Yes	Neutral

The group debated the unshared information as well as the shared information. Age was the starting point of the discussion and was the source of a great deal of debate. Gender was discussed briefly, but not in a constructive manner. The group members made negative comments about the female applicant that could be perceived as sexist; they then made some jokes about her and then moved on from that area of discussion. Interestingly, despite their negative talk about her, Isabelle was not ranked last by the group and was even ranked first by one of the group members (Green) in their individual decisions.

Table 13: Unshared positive information for Group 2

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	No	N/A
Isabelle - charismatic and successful	Positive	No	N/A
Isabelle - talented project manager	Positive	Yes	Positive
Isabelle - excellent mediator and speaks four languages	Positive	Yes	Neutral (one is not an official language of South Africa)
Isabelle - perfectionist	Positive	No	N/A
Sibu - well liked and centre of attention.	Positive	Yes	Neutral
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	Yes	Positive
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	Yes	Positive
Johann - hard worker who is dedicated	Positive	Yes	Positive

Table 14: Unshared negative information for Group 2

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	Yes	Neutral (Group did not hear this information as they were talking over each other).
Rajesh - takes undeserved credit	Negative	No	N/A
Isabelle - currently pregnant	Negative	Yes	Negative
Sibu - alcohol after work	Negative	Yes	Negative
Sibu - does not like technology.	Negative	Yes	Negative
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	Yes	Negative

Table 15: Unshared neutral information for Group 2

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	No	N/A
Rajesh - owns a holiday house	Neutral	No	N/A
Isabelle - plans to study MBA	Neutral	Yes	Positive
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

Interestingly, what motivated each of the group members to share information was different. Blue made a list of pros and cons for each applicant and made his decisions based on that and believed it was important to share the negative pieces

of information as this shed light on whether the person would work well or not. Yellow and Red believed that sharing information would lead to the better applicant being selected which was their goal; Yellow phrased it in the negative which is interesting: “If you didn’t share information, or put your point across, a poorer candidate would have been chosen for the job” (Group 2, Yellow, Questionnaire). This phrasing suggests a fear that his preferred candidate would not get chosen without his assistance. Blue stated that sharing information was in general a good idea while Green commented that he was motivated to share information in order to “…[try] to find middle ground between two group members’ debates” (Group 2, Green, Questionnaire). This comment is evidence of the leadership role that Green played within the group. All group members declared that they had not withheld any information as it would not be beneficial to the task. It appeared that the group did not realize that they had all received different information until near the end of the discussion. The role that the competitive aspect played was evident in the desire that all the group members had to be heard as well as to influence the decision-making. The competitive and argumentative nature of this group might have played a role in provoking everyone to share more information.

The group made a conscious effort to keep referring back to the requirements of the job and contrasting each of the applications with the requirements. The group members were very focused on experience and qualifications that were field-specific. The issue of whether qualifications or experience were more important was debated at length. The general feeling was that “…experience is more important than a degree” (Group 2, Yellow, Video). The issue of Johann’s driver’s licence having to be renewed was brushed off by saying “…it’s not like he can’t drive” (Group 2, Yellow, Video). The piece of information that may have swayed the group’s final decision was that of the alleged sexual harassment incident with Rajesh. Red mentioned this information but was not heard as the group members were talking over each other.

Table 16: Ranking of decisions – individual and group for Group 2

Rank	Red	Yellow	Blue	Green	Group
1	Johann	Rajesh	Johann	Isabelle	Rajesh
2	Rajesh	Johann	Sibu	Johann	Johann
3	Isabelle	Sibu	Rajesh	Rajesh	Isabelle
4	Sibu	Isabelle	Isabelle	Sibu	Sibu

It is interesting to note that, as in Group 1, all the individual decisions were different to one another and different to the group's final decision. The group did discuss their original, individual choices with one another and there was not one viewpoint that was initially favoured and then made to be the decision. The decision was again developed through the group discussion. The final decision was made in a top-down fashion. The debate for the top position was between Rajesh and Johann. Rajesh was ranked first as he had a good balance of qualifications and experience and he was younger than Johann. Johann was ranked second as he was older than Rajesh and the group were concerned about his health, but valued his experience. Isabelle was ranked third as she was pregnant and the group felt that she did not have a great deal of experience in the field, but believed she was more qualified than Sibu. Sibu was ranked last as he had no characteristics that the group believed differentiated him and made him stand out. The group were all satisfied with the overall decision and suggested that "…information that was brought to me after the individual choice would have probably changed my initial choice anyway" (Group 2, Green, Questionnaire).

Group dynamics

- Process

The discussion lasted for approximately 14 minutes and the group reached a decision ahead of the time limit. Blue struggled with understanding the instructions of the task but after the first minute of the discussion, figured out the process. The group did not struggle to start the discussion. The leader (Green) began by stating his top choice and inviting the others to do the same and time was designated for each member to state their top choice at the beginning of the discussion. The group did not set out a plan at the start. There were aspects of devil's advocacy, consensus and dialectical inquiry present in the group's discussion. All of the group members played an active role.

The group was extremely argumentative. Perhaps the fact that three of the four were studying law impacted this dynamic. Each of them wanted to share their thoughts and have their thoughts listened to by the other group members, and so they tended to speak louder and over each other through the interaction. The group members did a great deal of talking, but struggled to listen to each other fully. This was echoed in the post-task questionnaire by Green who commented that the group members would "…argue without listening to what the person before you had just said" (Group 2, Green, Questionnaire). It is clear that he included himself in this statement. Yellow stated: "I felt that A [Rajesh] should get the job, and as such, it was vital to ensure that the best argument in his favour was put forward" (Group 2, Yellow, Questionnaire). This illustrates how the group members were actively taking a stance and arguing for it. Yellow did form a sufficient argument for the group to rank him in top position.

One of the most important characteristics of the discussion in Group Two was that the group members were continuously talking over each other. Red appeared to be quieter and struggled to get his point across as the other group members were talking over him and as a consequence not listening to him. A particular incident of this was when Red mentioned the sexual harassment incident involving Rajesh. This piece of information was not heard by any of the group members despite Red sharing it with them.

The group members were more jovial and joked with each other a fair amount. This lead to more discussion and talking turns. The group members got carried away by each other on certain points that were somewhat irrelevant to the task and Green had to refocus the group. There were differing views on the process by group members. Yellow commented that the process was "somewhat chaotic" (Group 2, Yellow, Questionnaire) while Blue stated that the process was "logical, very ordered" (Group 2, Blue, Questionnaire). This reflects the notion that there was a great deal of talking and little cognisance of what was happening around them.

Three of the group members were satisfied with the group interaction, while Green "…felt stubbornness really delayed the choice longer than needed" (Group 2, Green, Questionnaire). The group members commented that they were satisfied with each member's contribution and declared themselves a "pretty good group" (Group 2, Red, Questionnaire). It was mentioned that "…it helped that we all knew each other" (Group 2, Red, Questionnaire).

It is extremely likely that the group's high level of group familiarity impacted certain of the dynamics in this group, including the jovial atmosphere and amount of information that was shared. It is also possible that the group composition of all males played a role in the intensity of the discussion and nature of the given interaction.

- Leadership

The expertise of any of the group members was not discussed. Green emerged as leader and there was no resistance to him taking on this role. The group accepted his leadership. This was reflected in the post-task questionnaires where Green was labeled as the leader by all group members including himself. Interestingly, the researcher recorded in her journal, prior to reading the questionnaires, that Yellow appeared to be the leader. The researcher may have interpreted Yellow's high number of talking turns as an indication of leadership as well as his authoritative voice and demeanour.

- Turn-taking

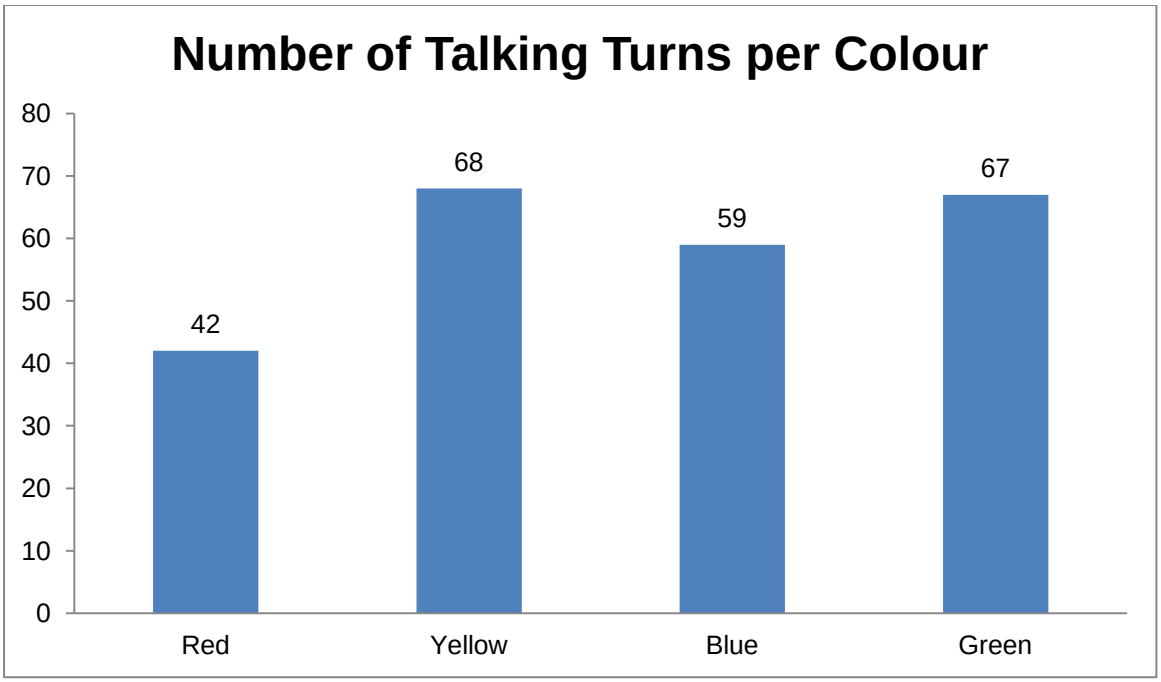


Figure 2: Number of talking turns per colour for Group 2

The number of talking turns was higher in this group than one might expect for the duration of the interaction. This is attributed to the fact that the group members continuously spoke over each other and often needed to repeat what they had initially said. The argumentative nature of the group meant that debate was critical in the decision-making process and hence the number of talking turns per person was high. It appears that Red spoke less than the other group members. The researcher noticed that he was quiet-natured and found it difficult to make himself heard, especially when the others were speaking over him. Red became more vocal towards the end of the interaction. Yellow and Green show a similar number of talking turns which highlights Green's leadership role and the researcher's confusion over Yellow's leadership role (as discussed above).

Group 3

Group Characteristics

Table 17: Demographics and familiarity ratings for Group 3

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	M	19	White	Physio	1	NA	3	7	8
Yellow	M	19	Black	Nursing	1	3	NA	3	3
Blue	F	18	White	Physio	1	8	2	NA	8
Green	F	18	White	Physio	1	7	1	5	NA

Familiarity was scored on a rating scale as discussed for Group 1.

Group Three was comprised of two males (one white and one black) and two females (both white). Both females and one male were studying physiotherapy while the other male was studying nursing. All group members were in first year. Their group's average level of familiarity was 14.5, which indicates that the group members were somewhat familiar with each other.

Information that was discussed and decision that was reached

Table 18: Shared information for Group 3

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	Yes	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	Yes	-
Recommendations	-	Yes	-
Hobbies	-	No	-
Rajesh - good communication skills	Positive	No	N/A
Rajesh - arrives early	Positive	Yes	Positive
Rajesh – takes responsibility	Positive	No	N/A
Isabelle - good leadership ability.	Positive	No	N/A
Isabelle – a lot of experience	Positive	Yes	Positive
Isabelle – excellent time management	Positive	Yes	Positive
Sibu - works well in groups.	Positive	Yes	Positive
Sibu - financial knowledge/ management excellent.	Positive	Yes	Positive
Sibu - extrovert	Neutral	Yes	Neutral
Johann - people-person with passion and integrity	Positive	Yes	Positive
Johann – excellent knowledge on software	Positive	Yes	Positive
Johann - driver's licence renewal	Negative	Yes	Neutral

The group discussed three-quarters of the shared information (75%); very little of the unshared positive information (18%); over half of the unshared negative information (57%); and none of the unshared neutral information (0%).

Table 19: Unshared positive information for Group 3

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	No	N/A
Isabelle - charismatic and successful	Positive	No	N//A
Isabelle - talented project manager	Positive	No	N/A
Isabelle - excellent mediator and speaks four languages	Positive	Yes	Positive
Isabelle - perfectionist	Positive	No	N/A
Sibu - well liked and centre of attention.	Positive	No	N/A
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	No	N/A
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	No	N/A
Johann - hard worker who is dedicated	Positive	Yes	Positive

In the post-task questionnaire the group members stated that negative information about candidates and information about their qualifications and experience were the most important aspects to discuss; this is reflected in the percentage of each of the components of information that were discussed.

Table 20: Unshared negative information for Group 3

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	Yes	Negative. (mentioned the importance of the word alleged)
Rajesh - takes undeserved credit	Negative	No	N/A
Isabelle - currently pregnant	Negative	Yes	Positive
Sibu - alcohol after work	Negative	Yes	Negative
Sibu - does not like technology.	Negative	No	N/A
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	Yes	Negative

The group members' motivations for sharing information included: to ensure that the correct applicant was chosen; to change the direction of the discussion; and to give

each applicant a fair chance by discussing the good and bad attributes of all of the applicants. All the group members stated that they did not withhold any information. They did not withhold information as it would mean the incorrect applicant would be chosen or some applicants would not be given a fair chance in the process. This is evidence that the group members did not experience the desired level of competition that the researcher aimed to create.

The group members debated the unshared information, specifically Isabelle's pregnancy and the alleged sexual harassment incident involving Rajesh. When unshared information was shared with the group, other group members asked for more details to shed light on certain matters (for example, when Red shared the information about Rajesh's alleged sexual harassment incident, Blue asked if he could provide more details on it).

Table 21: Unshared neutral information for Group 3

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	No	N/A
Rajesh - owns a holiday house	Neutral	No	N/A
Isabelle - plans to study MBA	Neutral	No	N/A
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

There was debate about which was more important: qualifications or experience. Red made some interesting comments about retirement age with respect to Johann. Blue suggested that Isabelle must be a strong candidate as she was the only female that was short-listed in what appeared to her (Blue) to be a male-dominated industry. The group members made many thoughtful remarks about legislation, discrimination and duration of maternity leave. These remarks were generally raised in relation to the hiring of Isabelle. Interestingly, the group viewed Isabelle's pregnancy as a positive attribute. They expressed that children can actually increase a person's working ability, especially with respect to planning and responsibility. It was also mentioned that Isabelle had good time management skills and therefore would manage to balance her work and home demands.

Yellow shared some strong opinions about how the candidates' marital status could shed light on their characters. Yellow believed that the way one manages things at home reflects how one will manage things at work. He argued that Johann and Sibu being unmarried was problematic as it highlighted issues surrounding their levels of commitment. This information was received well by the group members although it did not contribute to the overall decision-making. Despite it being received well in the interaction, in the post-task questionnaire it was highlighted by many of the remaining group members that they felt that Yellow was focused on irrelevant issues such as marital status. The fact that they only mentioned this outside of Yellow's presence suggests that the underlying culture of acceptance and tolerance that is encouraged by the university was at play.

Table 22: Ranking of decisions – individual and group for Group 3

Rank	Red	Yellow	Blue	Green	Group
1	Isabelle	Isabelle	Isabelle	Isabelle	Isabelle
2	Johann	Rajesh	Sibu	Rajesh	Sibu
3	Sibu	Sibu	Rajesh	Sibu	Johann
4	Rajesh	Johann	Johann	Johann	Rajesh

In the process of making the decision, all the factors that were raised by each of the group members were raised and considered. All group members ranked Isabelle as their first choice in the individual rankings and this clearly influenced the group's decision to rank Isabelle as their top choice. The group selected their candidate for the highest ranked position, then the lowest ranked position and this was followed by the middle two positions. The group selected Isabelle as their top choice owing to her qualifications, language skills and her pregnancy that was viewed in a positive light. Rajesh was ranked at the bottom owing to the alleged sexual harassment incident; the group felt that more information was needed on this but seeing as they had no further details they needed to act cautiously and not put any other employees at risk by hiring Rajesh. Johann was ranked third as he was a hard worker and leader but was limited by his age and health. Sibu was ranked second owing to his financial skills, extroversion and experience. It appeared that Sibu was ranked

second by default as the group expressed their concern that he had no outstanding qualities.

Group dynamics

- Process

The group discussion lasted 12 minutes and 10 seconds and they reached a decision ahead of the time limit. The group struggled to begin the initial discussion. They looked around at each other for a little while until Green began the discussion. The group did not set out a plan at the start, nor did they allocate specific time for each member to talk. Despite this apparent lack of structure, the group process was formal and appeared to flow well.

The group process seemed more civilized and formal than the other groups. There were elements of polite conversation, each group member received a chance to speak and was listened to by the rest of the group. The group members did not talk over each other at all. Red stated that "…all possibilities were discussed and all views considered, information was shared easily making an unbiased and democratic decision easy to come by" (Group 3, Red, Questionnaire). This corroborates the views of the researcher. The more formal nature of the discussion may be a result of the low level of familiarity combined with the context in which they know each other (they are in the same class for one subject). Perhaps the group members communicated with one another as colleagues (instead of friends) which may have led to the more formal and polite protocols that this group employed.

Devil's advocacy and consensus approaches were predominantly employed.
All group members were satisfied with the group decision and group interaction and expressed this in the post-task questionnaire.

- Leadership

The expertise of any of the group members was not discussed. There was not a definite leader that emerged. The group members all played an active and equal role. The group members were satisfied with each other's contributions and expressed this in the post-task questionnaire.

- Turn-taking

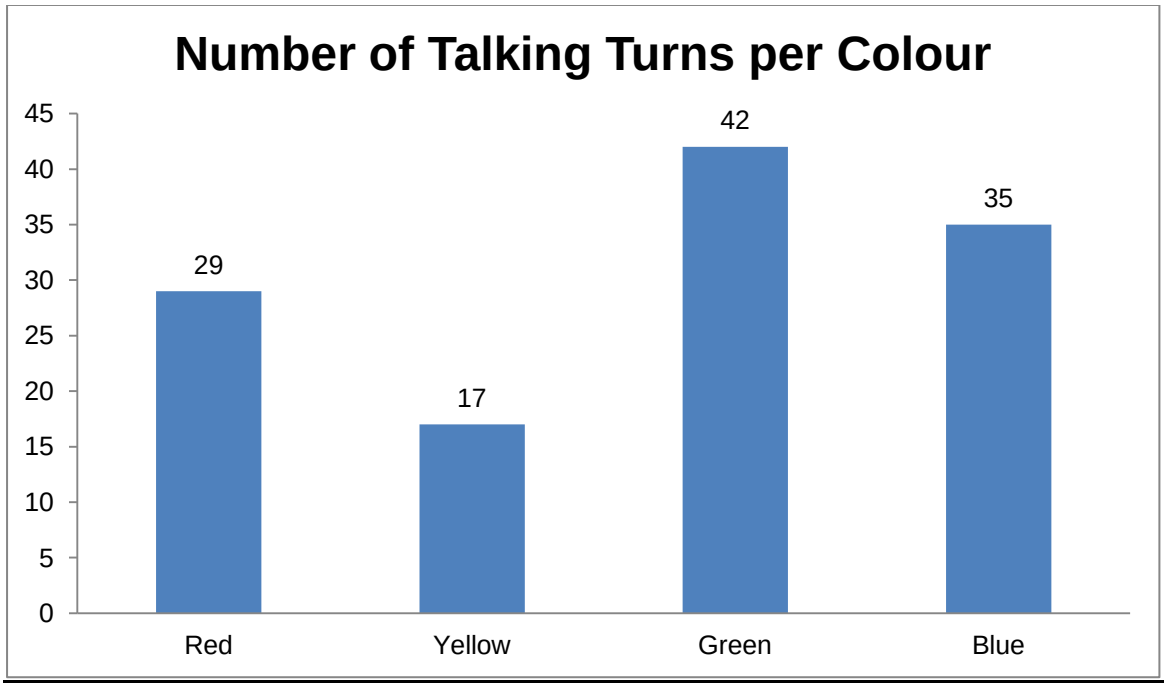


Figure 3: Number of talking turns per colour for Group 3

Although all the group members stated that everyone contributed equally, it can be clearly seen that Yellow spoke fewer times than the others. Despite Green speaking more often than any other group member, she was not considered to be the leader of the group. This sheds light on the content of what she said in the interaction. In the views of the other group members, Green was not seen to create structure or direction for the group through her contribution to the discussion.

Group 4

Group Characteristics

Table 23: Demographics and familiarity ratings for Group 4

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	F	21	White	Film	3	NA	4	7	3
Yellow	F	22	White	Engineering	3	9	NA	7	7
Blue	F	23	Black	Medicine	Mast	7	7	NA	7
Green	F	20	White	Physio	2	7	7	8	NA

Familiarity was scored on a rating scale as discussed for Group 1.

Group Four contained four females (three white and one black). Each group member was studying in a different field and at a different level (except for Red and Yellow who were both in their third year of study). Group Four's average level of familiarity was 20 which indicated that there was a substantial amount of familiarity amongst group members.

Information that was discussed and decision that was reached

The group discussed just over half of the shared information (55%); very little of the unshared positive information (18%); over half of the unshared negative information (57%); and little of the unshared neutral information (17%).

Table 24: Shared information for Group 4

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	No	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	Yes	-
Recommendations	-	Yes	-
Hobbies	-	Yes	-
Rajesh - good communication skills	Positive	No	N/A
Rajesh - arrives early	Positive	No	N/A
Rajesh – takes responsibility	Positive	Yes	Negative (Seen as overbearing)
Isabelle - good leadership ability.	Positive	Yes	Positive
Isabelle – a lot of experience	Positive	No	N/A
Isabelle – excellent time management	Positive	No	N/A
Sibu - works well in groups.	Positive	No	N/A
Sibu - financial knowledge/ management excellent.	Positive	No	N/A
Sibu - extrovert	Neutral	Yes	Positive
Johann - people-person with passion and integrity	Positive	No	N/A
Johann – excellent knowledge on software	Positive	Yes	Positive
Johann - driver's licence renewal	Negative	Yes	Negative

Table 25: Unshared positive information for Group 4

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	Yes	Negative (seen as a risk)
Isabelle - charismatic and successful	Positive	No	N/A
Isabelle - talented project manager	Positive	No	N/A
Isabelle - excellent mediator and speaks four languages	Positive	Yes	Positive
Isabelle - perfectionist	Positive	No	N/A
Sibu - well liked and centre of attention.	Positive	No	N/A
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	No	N/A
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	No	N/A
Johann - hard worker who is dedicated	Positive	No	N/A

The group members debated the unshared information and this contributed to their overall group decision. The group members expressed that they were motivated to share information in order to assist in making the best decision as a group and also because they felt that their input was valued by the other group members. All the group members stated that they did not withhold information that they considered to be important. The issue of what information they deemed to be important is interesting to look at (please see tables 26-29).

Table 26: Unshared negative information for Group 4

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	Yes	Neutral (unconfirmed so cannot be held against him)
Rajesh - takes undeserved credit	Negative	Yes	Negative
Isabelle - currently pregnant	Negative	Yes	Negative
Sibu - alcohol after work	Negative	Yes	Neutral (was not seen to affect his work)
Sibu - does not like technology.	Negative	No	N/A
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	No	N/A

The group members were very focused on the requirements of the job and continuously referred back to these. Interestingly the neutral piece of information regarding Rajesh's holiday house in France was viewed negatively and raised more often than his alleged sexual harassment incident. Blue commented that "…it would have been useful to know how long the contract is for" (Group 4, Blue, Video). This was a very interesting point that the researcher had not considered including in the given information. The group raised some interesting questions about wanting more information about what field the applicants' qualifications and experience were in. This lack of information formed a major part of their decision-making process as they weighed up their options as if the qualification and experience of the applicants (that was not labeled overtly) were not relevant to the field.

Table 27: Unshared neutral information for Group 4

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	No	N/A
Rajesh - owns a holiday house	Neutral	Yes	Negative (seen as pompous and arrogant)
Isabelle - plans to study MBA	Neutral	No	N/A
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

Table 28: Ranking of decisions – individual and group for Group 4

Rank	Red	Yellow	Blue	Green	Group
1	Rajesh	Sibu	Rajesh	Isabelle	Rajesh
2	Johann	Isabelle	Johann	Rajesh	Johann
3	Isabelle	Rajesh	Isabelle	Sibu	Isabelle
4	Sibu	Johann	Sibu	Johann	Sibu

Red and Blue shared the same initial individual decision. This was the favoured decision at the start of the discussion and clearly impacted the group decision. The decision was made for the first ranked, then the last ranked, followed by the middle rankings. Rajesh was placed in first position owing to the combination of his experience and qualifications (despite not going to university). The group elected to overlook the alleged sexual harassment incident as it could be seen as someone "…complimenting someone and them taking it the wrong way" (Group 4, Blue, Video). This information was brought up once and not discussed again. Sibu was ranked last as he appeared vague, especially in terms of what degree he had and where he had worked. Questions around why he had worked at five companies were raised in relation to how long he would intend staying at this company if he were hired. Johann was selected as second choice because of his vast experience and software knowledge. Isabelle was ranked third because of her being pregnant and questions surrounding the relevance of her qualifications. The group questioned whether her degree was in the correct field and, if not, then she would have very little on her application to support her being the top choice.

Group dynamics

- Process

The duration of the group's discussion was approximately 17 minutes. Although the group did reach a decision ahead of the time limit, the researcher did need to remind them of the time that had passed. Yellow began the discussion with little difficulty. The group set out a plan at the start of the discussion and that was to listen to each group member's individual decisions and then begin the discussion on positives and negatives of each of the applicants. The group designated times for each member to talk without being interrupted. The group members respected each other's points of view and each other's talking turns and so there were very few occasions where a group member was interrupted or spoken over. It took the group approximately 7 minutes to figure out that they each had different pieces of information. During this time the group only spoke about shared information. Once the group figured out that each member had different information, they elected to share that information and find out as much as possible from each other.

Aspects of consensus, devil's advocacy and dialectical inquiry were all evident in the group interaction at specific decision-making points. The group members expressed (in the post-task questionnaire) that they all agreed with and were satisfied with the group decision, even if it was not their individual initial choice. The group members were also satisfied with the group interaction and felt that each member contributed to the discussion, was heard and that their input was valued and respected by the group. The comments on the questionnaire revealed that the group members were very aware of listening to each other's input. There did not appear to be a great deal of competition, except for Blue being fairly adamant in her viewpoints.

- Leadership

Interestingly two leaders emerged in the group: Blue and Yellow. There was no resistance towards the leaders and all group members accepted their leadership. Green believed that there was no leader and that each group member contributed equally. There was no obvious competition between the leaders. The other group members played an active role in the discussion and the decision-making. The

expertise of Yellow as a leader was raised by Red's comment "I do have prior experience with Yellow being in a leadership position" (Group 4, Red, Questionnaire).

- Turn-taking

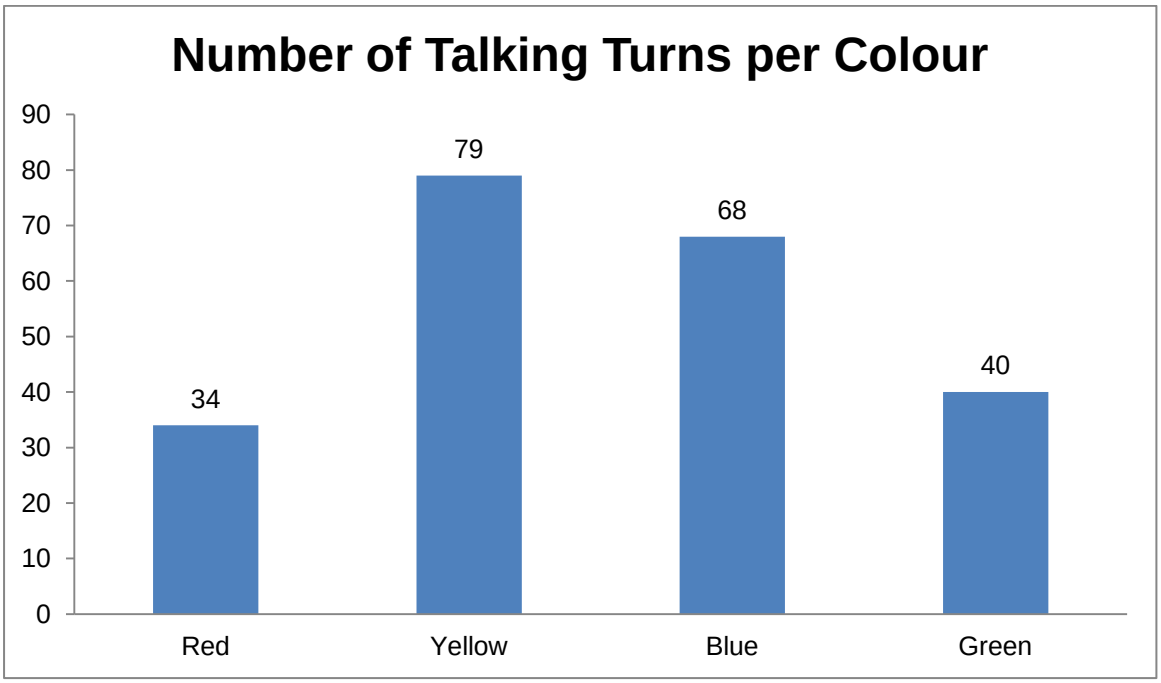


Figure 4: Number of talking turns per colour for Group 4

Yellow and Blue seemed to dominate the discussion in the group interaction. In addition to having more talking turns, these two group members also spoke for extended periods of time. Yellow attempted to draw Red and Green into the conversation at points by asking for their opinions or thoughts. The distribution of talking turns in this group is reflective of the group member's thoughts on leadership within the group.

Group 5

Group Characteristics

Table 29: Demographics and familiarity ratings for Group 5

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	F	22	Indian	Psych	Hons	NA	8	8	7
Yellow	F	22	Coloured	Psych	Hons	8	NA	8	8
Blue	F	22	Indian	Psych	Hons	8	8	NA	8
Green	F	21	White	Psych	Hons	7	8	8	NA

Familiarity was scored on a rating scale as discussed for Group 1.

Group Five was made up of four females (one white, two Indian and one coloured). All four group members were Psychology Honours students. The group's average level of familiarity was 23.5 which suggests that there was quite a high level of familiarity amongst group members, presumably because they were in class together.

Information that was discussed and decision that was reached

Table 30: Shared information for Group 5

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	No	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	Yes	-
Recommendations	-	Yes	-
Hobbies	-	Yes	-
Rajesh - good communication skills	Positive	Yes	Positive
Rajesh - arrives early	Positive	Yes	Positive
Rajesh – takes responsibility	Positive	Yes	Positive
Isabelle - good leadership ability.	Positive	Yes	Positive
Isabelle – a lot of experience	Positive	No	N/A
Isabelle – excellent time management	Positive	Yes	Positive
Sibu - works well in groups.	Positive	Yes	Positive
Sibu - financial knowledge/ management excellent.	Positive	No	N/A
Sibu - extrovert	Neutral	Yes	Positive
Johann - people-person with passion and integrity	Positive	No	N/A
Johann – excellent knowledge on software	Positive	Yes	Positive
Johann - driver's licence renewal	Negative	No	N/A

Table 31: Unshared positive information for Group 5

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	No	N/A
Isabelle - charismatic and successful	Positive	No	N/A
Isabelle - talented project manager	Positive	Yes	Positive
Isabelle - excellent mediator and speaks four languages	Positive	No	N/A
Isabelle - perfectionist	Positive	No	N/A
Sibu - well liked and centre of attention.	Positive	Yes	Neutral
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	Yes	Positive
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	No	N/A
Johann - hard worker who is dedicated	Positive	No	N/A

Table 32: Unshared negative information for Group 5

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	Yes	Negative
Rajesh - takes undeserved credit	Negative	Yes	Negative
Isabelle - currently pregnant	Negative	Yes	Neutral/Negative (Group was divided on their opinion)
Sibu - alcohol after work	Negative	No	N/A
Sibu - does not like technology.	Negative	Yes	Negative
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	Yes	Negative

Table 33: Unshared neutral information for Group 5

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	Yes	Neutral
Rajesh - owns a holiday house	Neutral	Yes	Negative (seen as arrogant)
Isabelle - plans to study MBA	Neutral	No	N/A
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

The group discussed just under three-quarters of the shared information (70%); less than a third of the unshared positive information (27%); approximately three-quarters of the unshared negative information (71%); and a third of the unshared neutral information (33%). The information that the group members felt was of the most importance was Johann's problem with gout, Isabelle's pregnancy and information

about the characters of the applicants. The group debated the unshared information, especially Isabelle's pregnancy. The group members were divided about whether this information was negative or neutral. Yellow believed that Isabelle is "…not selfish if she wants to have a baby" (Group 5, Yellow, Video). Interestingly, the group developed contingencies for when Isabelle would be on maternity leave.

Table 34: Ranking of decisions – individual and group for Group 5

Rank	Red	Yellow	Blue	Green	Group
1	Isabelle	Isabelle	Sibu	Isabelle	Isabelle
2	Rajesh	Johann	Rajesh	Sibu	Rajesh
3	Johann	Sibu	Isabelle	Rajesh	Johann
4	Sibu	Rajesh	Johann	Johann	Sibu

The dominant views of Red and her initial individual decision contributed to the group decision significantly. There was no order to how the group reached their decision apart from ensuring that the first ranked was the priority. The group ranked Isabelle first (despite her pregnancy which caused much debate) owing to her qualities and her having the best qualifications. It is interesting to note that three out of the four group members had ranked Isabelle first in their individual decisions - this clearly carried over to their group decision. Blue remained unsure of the decision to rank Isabelle first. Rajesh was ranked second because of his qualifications and his experience. This was not a unanimous decision as Yellow was vehemently opposed to this but was "out-voted" by the other group members. Johann was ranked third as the group were concerned about his age and health but valued his experience. Sibu was ranked fourth because he did not like technology and the group saw his loyalty as questionable owing to the fact that he had worked at five companies. The rankings of Johann and Sibu were agreed upon by all group members.

In the post-task questionnaire although the group members all expressed that they were satisfied with the group decision, Yellow voiced her hesitations about Rajesh being ranked second. Yellow was adamant that Rajesh should be ranked fourth and there was evidence that she really internalized her role of being on the selection panel. Yellow stated that "Rajesh won't gel well with our company" (Group 5, Yellow, Questionnaire) and "…if it was up to me, I wouldn't have even short-listed Rajesh"

(Group 5, Yellow, Questionnaire). Despite these passionate pleas, Rajesh was still ranked second by the group.

Group dynamics

- Process

The group discussion lasted 20 minutes and 20 seconds. The researcher had to step in to ask the group to come to a decision as they had reached the time limit. The group members did not struggle to begin the discussion. There was no plan that was set out at the start. All the group members played an active role in the discussion and were each given time to voice their opinion at the start of the discussion. There was a great deal of discussion and debate amongst the group members. Often this debate went in circles with no actual decisions being made. There were times when the group members spoke over each other. The group members drew on personal experiences and explained their thought processes about the decision-making clearly to the group. There was a dominant view from Red from the beginning of the discussion. This was opposed by Blue but she was very reserved and quiet in her argument. Yellow also disagreed with some of the fundamental decisions that were made, especially regarding Rajesh. Despite voicing these opinions, she was "out-voted" by the rest of the group. Although there was a great deal of discussion there was no real consensus on the decision. The dominant view was chosen and the opposing group members appeared to be 'steamrolled' into agreeing with that view. The approaches of devil's advocacy and consensus were evident in the group discussion, however, it should be noted that there was no consensus on the final group decision as Yellow was not in agreement with Rajesh being ranked second and Blue was not totally in agreement with Isabelle being ranked first. Green described the interaction as "…quite democratic in nature. The decision at the end was a consensus with one minor conflict with the second candidate" (Group 5, Green, Questionnaire).

The group members expressed that they were motivated to share information in order to contribute to the discussion and assist in making the overall decision. The group members all commented that they did not withhold any information as it would affect the decision-making process and because they felt "…comfortable enough for full disclosure with group" (Group 5, Red, Questionnaire). The group members felt

that the high level of familiarity in the group contributed to the group interaction. Yellow commented: “I felt that working with people I knew made the decision much easier. I felt that we were able to discuss our views & opinions openly & honestly which made the process more efficient” (Group 5, Yellow, Questionnaire). Yellow also stated that “we are a group of friends so whether in agreement or not; we communicate with respect & we do not take things too personally. We’re able to interact freely & openly” (Group 5, Yellow, Questionnaire). There is evidence that the familiarity level between these group members assisted in their interaction and decision-making. The group members all expressed that they were satisfied with the interaction of the group and the contribution of all of the members. While the group members clearly took the required role on board they did not seem to have taken on much of the competitive aspect of the task and appeared to be working in collaboration for the majority of the interaction.

- Leadership

The expertise of any of the group members was not discussed. The group reported that no leader emerged in the interaction, that they all felt they had contributed when necessary and that the discussion did not need to “…be facilitated that much” (Group 5, Green, Questionnaire). Despite these reports, the researcher noted that Red appeared to emerge as the leader; it is possible that her ‘leadership’ was met with resistance and was not viewed by the other group members as leadership but rather as being argumentative. Despite Blue and Yellow having opposing views, both group members agreed with Red when she told them to do so. This provided evidence of the dominant role that Red played although the reason for this is unclear. One possibility is that Blue and Yellow did see Red as a leader of some form as they listened to her and gave up on their views. Alternatively it could be that the high level of familiarity might mean that they were aware of each others’ different tolerance levels for disagreement and how far they could ‘push’ without causing genuine distress. The level of familiarity and the customary roles associated with their longer-term interactions may have influenced the outcome.

- Turn-taking

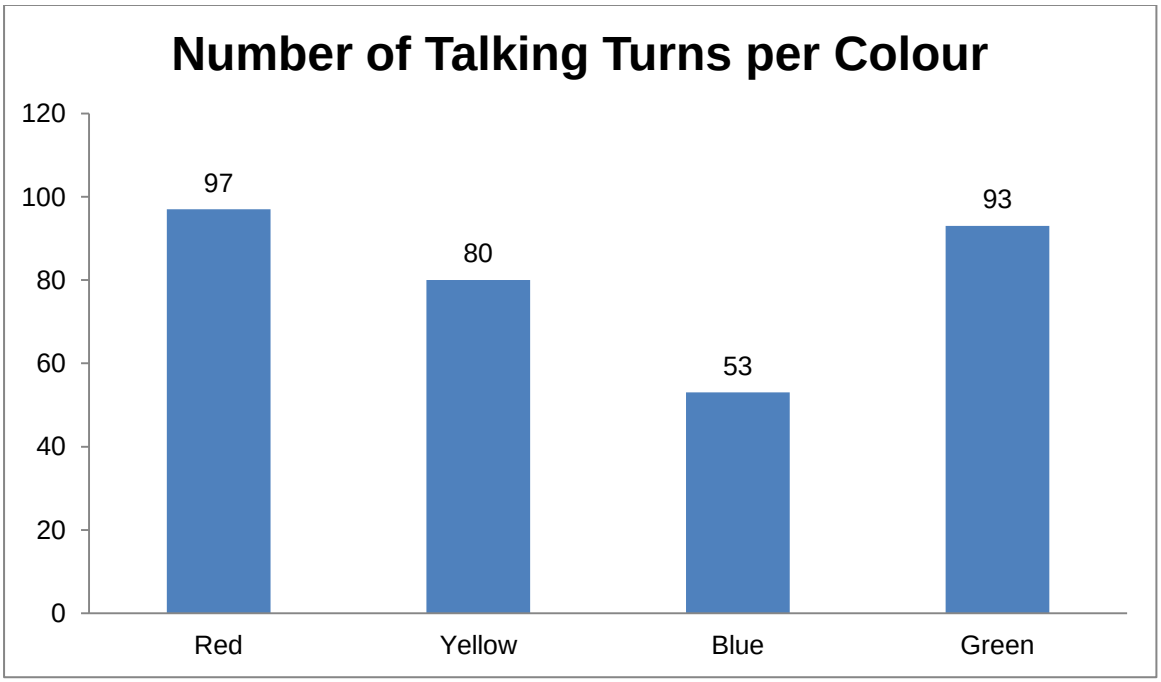


Figure 5: Number of talking turns per colour for Group 5

Group 5 showed the highest number of talking turns out of all the groups and this is because the group also had the longest duration of discussion. The group members all commented that no leader emerged and that everyone contributed equally. It was, however, mentioned that “Blue could have contributed a bit more” (Group 5, Yellow, Questionnaire) and this sentiment was reflected in Blue having taken the lowest number of talking turns in the group.

Group 6

Group Characteristics

Table 35: Demographics and familiarity ratings for Group 6

Colour	Gender	Age	Race	Area of study	Year of study	Familiar with Red	Familiar with Yellow	Familiar with Blue	Familiar with Green
Red	F	22	White	Psych	Hons	NA	7	10	7
Yellow	F	21	Indian	Psych	Hons	8	NA	8	8
Blue	F	21	White	Psych	Hons	10	8	NA	8
Green	M	23	White	Psych	Hons	6	6	6	NA

Familiarity was scored on a rating scale as discussed for Group 1.

The final group, Group Six was made up of one male (white) and three females (two white and one Indian). All four group members were Psychology Honours students. The group's average level of group familiarity was 23, which suggests a fairly high level of familiarity amongst group members, presumably because they were in class together.

Information that was discussed and decision that was reached

The group discussed three quarters of the shared information (75%); nearly a third of the unshared positive information (27%); over half of the unshared negative information (57%); and none of the neutral information (0%). The group figured out that they each had different pieces of information but then they did not initially share this information with each other. The group focused a great deal on the number and quality of the applicants' recommendations. The group also discussed Sibu's five previous jobs and the notion of "job-hopping" was discussed intensely. Green made an interesting reference to golf being a good hobby to have in business as it is a good networking tool.

Table 36: Shared information for Group 6

Information	Category	Discussed	Perceived category
Age	-	Yes	-
Gender	-	Yes	-
Race (inferred from name)	-	No	-
Qualifications	-	Yes	-
Experience	-	Yes	-
Personal Details	-	No	-
Recommendations	-	Yes	-
Hobbies	-	Yes	-
Rajesh - good communication skills	Positive	Yes	Positive
Rajesh - arrives early	Positive	Yes	Positive
Rajesh – takes responsibility	Positive	No	N/A
Isabelle - good leadership ability.	Positive	Yes	Positive
Isabelle – a lot of experience	Positive	Yes	Positive
Isabelle – excellent time management	Positive	No	N/A
Sibu - works well in groups.	Positive	Yes	Positive
Sibu - financial knowledge/ management excellent.	Positive	Yes	Positive
Sibu - extrovert	Neutral	No	N/A
Johann - people-person with passion and integrity	Positive	Yes	Positive
Johann – excellent knowledge on software	Positive	Yes	Positive
Johann - driver's licence renewal	Negative	Yes	Negative

The unshared information was debated and did affect the decision-making, especially Isabelle's pregnancy and Sibu's dislike of technology. There was some debate about whether experience or qualifications were more important. Blue stated that "experience often counts for more than qualifications" (Group 6, Blue, Video). However, this sentiment was not followed when the final decision was made between Isabelle (more qualifications) and Johann (more experience).

The group members reported that they were motivated to share information in order to select the best candidate and to voice their opinions. Blue stated that she shared information "in order to justify my opinion and contest other people's opinions" (Group 6, Blue, Questionnaire). This statement highlights Blue's resistance to changing her individual decision and also suggests a feeling of combative discussion rather than constructive discussion. All the group members reported that they did not withhold information as it would compromise the selection of the best applicant.

Table 37: Unshared positive information for Group 6

Information	Category	Discussed	Perceived Category
Rajesh - motivated and driven	Positive	No	N/A
Rajesh - head-hunted	Positive	No	N/A
Isabelle - charismatic and successful	Positive	Yes	Positive
Isabelle - talented project manager	Positive	Yes	Positive
Isabelle - excellent mediator and speaks four languages	Positive	No	N/A
Isabelle - perfectionist	Positive	Yes	Negative
Sibu - well liked and centre of attention.	Positive	No	N/A
Sibu – unique management style	Positive	No	N/A
Sibu - profound impact	Positive	No	N/A
Johann - worked his way up the corporate ladder; loyalty but ready for a new challenge	Positive	No	N/A
Johann - hard worker who is dedicated	Positive	No	N/A

Table 38: Unshared negative information for Group 6

Information	Category	Discussed	Perceived Category
Rajesh - sexual harassment	Negative	No	N/A
Rajesh - takes undeserved credit	Negative	No	N/A
Isabelle - currently pregnant	Negative	Yes	Negative (this was not heard the first time it was said as the group were talking over each other, however, it was repeated later on)
Sibu - alcohol after work	Negative	Yes	Negative
Sibu - does not like technology.	Negative	Yes	Negative
Johann - can get side tracked	Negative	No	N/A
Johann - gout	Negative	No	N/A

Table 39: Unshared neutral information for Group 6

Information	Category	Discussed	Perceived Category
Rajesh - likes structured meetings	Neutral	No	N/A
Rajesh - owns a holiday house	Neutral	No	N/A
Isabelle - plans to study MBA	Neutral	No	N/A
Sibu - award winning journalist	Neutral	No	N/A
Johann - computer and technology fanatic	Neutral	No	N/A
Johann - infectious laugh	Neutral	No	N/A

Table 40: Ranking of decisions – individual and group for Group 6

Rank	Red	Yellow	Blue	Green	Group
1	Rajesh	Isabelle	Rajesh	Rajesh	Rajesh
2	Isabelle	Sibu	Isabelle	Sibu	Isabelle
3	Johann	Rajesh	Johann	Isabelle	Johann
4	Sibu	Johann	Sibu	Johann	Sibu

There was not one viewpoint that was initially favoured that was then taken as the group decision. The decision arose out of the discussion and both Red's and Blue's refusals to change their rankings. The decision was made by debating between Rajesh and Isabelle for the top position and then between Johann and Sibu for the bottom position. The group ranked Rajesh as top choice owing to his qualifications, experience, time management, age, recommendations and hobby of golf. Isabelle was ranked second as she was very skilled and qualified but was pregnant which the group saw as negative. Johann was ranked third because of his vast experience and recommendations. Sibu was ranked last owing to his dislike of technology and lack of recommendations. Sibu's experience was also questioned and the notion of job-hopping was debated with respect to his previous experience at five companies. Interestingly there was more debate around the bottom-ranked positions than the top positions. This was supported by Red's statement: "…we all came to a consensus regarding Rajesh quite quickly, as well as Isabelle our second choice. However, with Johann and Sibu we debated and after a while came to the conclusion and consensus" (Group 6, Red, Questionnaire). This may be because three of the four group members selected Rajesh as their top applicant and the group decision was in line with this. The ultimate decision was not unanimous but was agreed to by all group members however Green believed that Sibu should have been ranked higher. Green commented on this by saying "I was rooting for Sibu for third, based on the information that I had and to try encourage the group to adequately motivate why Johann at an older age, with gout and without a licence should get the job. They succeeded" (Group 6, Green, Questionnaire). It is interesting to reflect on why Green allowed himself to be overruled in this manner. Perhaps it is a result of their customary roles associated with their longer-term interactions in the same university class. Despite this minor disagreement all the group members reported that they were satisfied with the group's decision.

Group dynamics

- Process

The group's discussion lasted for approximately ten minutes and they reached a decision within the allocated time limit. The group did not struggle to begin the initial discussion as Red and Blue began by sharing their individual decisions which started the discussion. There was no plan that was set out at the start of the discussion. The group members did not designate time for each member to voice their opinions initially but they did all share their individual choice within the first few minutes. The group spoke over each other a great deal and often spoke at the same time making it difficult to hear one another. When it was stated that Isabelle was pregnant, this was not heard the first time and had to be repeated later on in the discussion. Yellow was not dominant enough to be heard over the other group members. There were times when an argument was presented by a group member and instead of a debate emerging from this, the response was simply "no, I prefer applicant X" which halted the flow and changed the direction of the discussion. The discussion was characterised by some of the group members sticking to their initial, individual decisions and being unwilling to change these. Aspects of consensus, devil's advocacy and dialectical inquiry were evident in the discussion. Dialectical inquiry was used predominantly when deciding between the top two and bottom two candidates. Devil's advocacy was demonstrated when Green was campaigning for Sibu. Consensus was evident in the final ranking of candidates although Green was not in agreement in terms of Sibu's ranking.

All the group members played an active role in the discussion, although Yellow appeared to be more reserved and had less talking turns than the other group members (please see figure 6 below). The group were satisfied with each other's contributions to the group. Red, Green and Yellow were satisfied with the interaction of the group while Blue felt that they "…could have taken a more logical, structured approach; the way we did it was a bit chaotic" (Group 6, Blue, Questionnaire).

The customary longer term roles within the group may have come into play in this group's interaction. Having had previous interactions with one another could have influenced the manner in which they behaved (for example, Green's submissiveness

to Red and Blue). This group appeared to take on some elements of the competitive design of the task. This was evident in Red and Blue's commitment to having their initial individual decisions become the group's overall decision as well as Red's strategic information sharing.

- Leadership

The expertise of any of the group members was not discussed. Blue emerged as the leader within the discussion in the opinion of the researcher and Green. There was resistance from Green to her leadership and he refused to accept her leadership throughout the interaction. Red believed the time was too short for a leader to emerge; Yellow believed that the discussion was not dominated by one person and Blue believed that "no one really deffered(sic) to anyone else" (Group 6, Blue, Questionnaire).

- Turn-taking

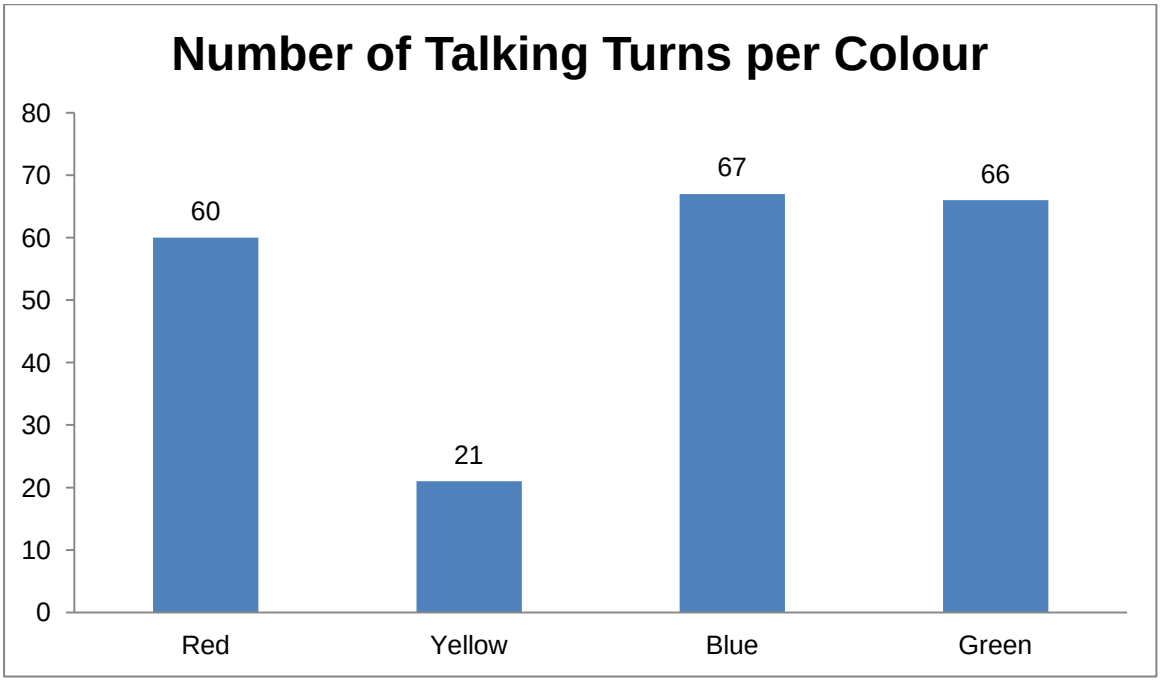


Figure 6: Number of talking turns per colour for Group 6

Group Six showed a higher number of talking turns than one would expect for the duration of the discussion - this is because there were segments of time when the group members were all talking at once. It is evident that Yellow had significantly fewer talking turns than the rest of the group. This was noticed by the group; Blue

commented that Yellow “could have been more vocal” (Group 6, Blue, Questionnaire) and Green stated that Yellow was “quite quiet and agreeable” (Group 6, Green, Questionnaire).

Chapter 5: General Discussion

Teams and groups are said to have many advantages over individuals, including having a larger resource base of information, experience and knowledge that can be used for decision-making (Driskell & Salas, 1992; Stasser, 1992). It should be noted that this bringing together of diverse views and experience needs to be carefully managed (Jehn et al., 1999). Research in the field of group performance has shown that the first studies done by Shaw (1932) "…attributed the effectiveness of groups to the ability of group members to exchange and coordinate information" (Driskell & Salas, 1992, p.277). These studies have been confirmed by more recent studies that have been conducted in the real world (Foushee, Lauber, Baetge & Acomb, 1986; Foushee & Manos, 1981, as cited in Driskell & Salas, 1992).

The advantages of groups has seen them become the foundation of many contemporary organisations (Kozlowski & Bell, 2003). Although groups and teams are becoming an increasingly integral part of organisations today, they are not without their problems (Jehn et al., 1999). Research has shown that groups frequently do not share information effectively and make sub-optimal decisions based on incomplete information (Stasser, 1992). One of the greatest issues is that "team constructs and phenomena are not static" (Kozlowski & Bell, 2003, p.7). The qualitative approach of this study allowed the researcher to gain insight into the fluidity and unpredictability of the group interactions. This section will examine the changes, similarities and differences across all six of the groups in the areas of information sharing, decision-making and group dynamics.

Information Sharing

<u>Shared Information</u>

It is generally agreed that in a group interaction based on a hidden profile task, more shared information will be discussed than unshared information (Stasser, 1992). The rationale behind this notion is that it is assumed that when the number of group members who are in possession of a certain piece of information increases, so too does the probability that that information will be discussed (Wittenbaum et al., 2004). The emphasis on the shared information can negatively impact the group's decision

as they may fail to take into account salient unshared information (Stasser, 1992; Wittenbaum et al., 2004). Gigone and Hastie (1993, 1997) call this phenomenon the common knowledge effect (Wittenbaum et al., 2004). This phenomenon was evident in all six of the groups.

Table 41: Percentage of shared information and percentage of unshared information discussed by each group

	Percentage shared information discussed	Percentage unshared information discussed
Group 1	35%	12.5%
Group 2	65%	50%
Group 3	75%	25%
Group 4	55%	29%
Group 5	70%	42%
Group 6	75%	29%

It can be seen from Table 41 above that all six groups in the study discussed more of the shared information than the unshared information. This is in line with the literature on the subject. Group 1 discussed the least amount of shared and unshared information. Group 3 and Group 6 discussed the most shared information and Group 2 discussed the most unshared information. Group 5 discussed the second most amount of shared and unshared information and this clearly impacted their decision (discussed later on).

It has been found that shared information is more likely to be discussed and also to be repeated than unshared information (Wittenbaum, et al., 2004). This was true in the current study, especially with regards to qualifications, experience and age which formed the shared information that was most frequently discussed. All six groups discussed the qualifications, experience and age of the applicants with this information playing a role to varying degrees in their decision-making. The biggest debate that emerged out of this shared information was whether the applicant's experience or qualifications were more relevant. Many comments were made such as "experience is more important than a degree" (Group 2, Yellow, Video); "experience often counts for more than qualifications" (Group 6, Blue, Video); "in this

day and age, qualifications count more than experience and if a candidate has both, they would be ranked the best candidate" (Group 3, Green, Questionnaire); and "the person's experience and education… shows how competent a person can be. They know what they are doing and don't need to be taught from scratch" (Group 1, Yellow Questionnaire). There were mixed views in each of the groups and between the groups on this topic. There were questions asked about what field the applicants' qualifications and experience were in so that the relevance and appropriateness could be considered (Group 4). This was an interesting point to note as some of the details on the CVs seemed vague and could be mistaken for being a positive attribute when in fact they were inconsequential as the field was unrelated to the nature of the job.

Group 1 and Group 5 placed significant importance on age, particularly Johann's age. Age was the starting point for Group 2's discussion and played a central role as it stirred a great deal of debate. Johann's age fell just within the requirements but some group members felt he was too old for the physically demanding job. Group 3 raised some interesting points about retirement age only being 60-65 years of age. Group 4 and Group 6 discussed age but were not overly concerned with it. Group 6 did mention that Rajesh's age put him in the middle of the required age which contributed to their decision of ranking him first.

All six of the groups discussed the recommendations of the applicants and this aspect factored into their decision-making to varying degrees. Group 1 and Group 3 were the only groups not to discuss the applicants' hobbies. Group 6 made some interesting comments about golf being a good networking tool in business. Group 2, Group 4 and Group 5 made various comments about Sibu's fitness (inferred from his soccer hobby) and Johann's personality (inferred from his bird-watching hobby).

The personal details of the applicants included their marital status and number of dependents. It was only Group 6 who did not discuss this information. Yellow in Group 3 shared some strong opinions about how the candidates' marital status could shed light on his/her character. He believed that the way one manages things at home reflects how one will manage things at work. He argued that Johann and Sibu being unmarried was problematic as it highlighted issues surrounding their levels of

commitment. This issue was debated by the other members in the group and their displeasure was expressed in the questionnaire: “Yellow focused on unimportant aspects in job application (ie married/not)” (Group 3, Blue, Questionnaire). It was clear that this aspect, while viewed as unimportant by some, was of cultural or personal importance to Yellow. He did not expand on this issue in the post-task questionnaire other than stating that “charity begins at home and if no plausible responsibility is present outside of work, no real depth of knowledge is gained” (Group 3, Yellow, Questionnaire). It is interesting to note that while his views were treated respectfully in the context of the discussion, they were privately deemed as irrelevant or unimportant by other group members and this was not expressed. The remaining groups merely mentioned the information regarding marital status but did not base too many decisions on it.

Gender was only mentioned by half of the groups. Interestingly both all-female groups (Group 4 and Group 5) did not mention gender. Perhaps this was because they either experienced or hoped to experience a gender neutral workplace when they look for a job in the future. Group 6 mentioned gender generally while Group 3 mentioned gender in relation to Isabelle; Blue from Group 3 suggested that Isabelle must have been a strong candidate as she was the only female that was short-listed in what appeared to her (Blue) to be a male-dominated industry. Group 2 (the all-male group) made seemingly sexist comments about Isabelle but this did not factor into their decision.

As race is a controversial issue in contemporary South African employment practices, the researcher elected not to write this explicitly on the application sheets with the shared information, but rather to allow race to be inferred through the names of the applicants. Interestingly, none of the groups referred to the race of the applicants either directly or indirectly in their discussions. The reasons that this was not raised might be because the level of comfort in discussing the topic within the group was not sufficient; or the culture that exists at the university regarding race; or ignorance of the significance of this aspect in real-world hiring situations. The fact that it was not explicitly highlighted in the task may have also played a role.

It is interesting to reflect on the types of information that each of the groups deemed necessary or important in the hiring context. Research suggests that many factors are considered within the hiring context and that discrimination exists in terms of gender, age, race, physical attractiveness, skill, health and qualifications (Cann et al., 1981; Gringart & Helmes, 2001; Hu, 2003; Klesges et al., 1990; Raza & Carpenter, 1987). These factors were discussed by each of the groups except for race and physical attractiveness. In each of the groups, different types of information were given differing levels of importance and discussed for varying lengths of time.

The amount of shared information that was discussed helps to create a picture of what information was deemed more important. Each piece of shared information was discussed by at least two groups. The maximum number of groups to discuss any piece of shared information was five. None of the shared information was discussed by all six groups. Seeing that none of the groups discussed all of the shared information, it follows that different groups placed differing levels of importance on particular pieces of information and not on others.

The piece of shared information “Sibu is an extrovert by nature” was originally classified by the researcher as neutral. Only Group 3 classified the information as neutral in their discussion. Group 1, Group 2, Group 4 and Group 5 identifed this information as positive. Group 6 did not discuss this information. Perhaps the reason that this information was largely considered positive is that there is the assumption that an extrovert is a natural people-person and even a leader in some senses. It should be noted that the job description did not require an extroverted person, yet in most cases this piece of information was seen as relevant to the job criteria.

The piece of shared information “Johann’s driver’s licence needs to be renewed” was initially classified by the researcher as negative as it meant that he did not meet the requirements of the job. There were mixed views on how this piece of information should be interpreted. Group 1 and Group 5 did not find it necessary to mention this information. Group 2 and Group 3 identifed that this information as neutral as “it’s not like he can’t drive” (Group 2, Yellow, Video) and he would be able to renew his licence. Group 4 and Group 6 agreed with the researcher that this information was

negative. This highlights the fluidity of the nature of information and how it can be interpreted in different ways, in different contexts and also over time.

Researchers suggest that one of the reasons that group members discuss more shared information is because in a situation where a member realises that others have the same information, they are more likely to view that information as relevant and important (Wittenbaum, et al., 2004). When they discuss this information there is a sense of validation from the other members that is not present when they discuss unshared information (Wittenbaum, et al., 2004). This is especially true when working on an unfamiliar task that involves a level of uncertainty (Wittenbaum, et al., 2004). In this vein, unshared information is often considered a threat to consensus and often remains unshared (Toma & Butera, 2009). Yellow in Group 1 expressed that she did not share information "because it would change the direction of the discussion" (Group 1, Yellow, Questionnaire). This shows how group members are often aware of the impact that the information that they may or may not share will have on the group's discussion. In this instance Yellow in Group 1 chose not to share important information as she felt the group had already reached a decision and her contribution would negatively affect that decision; and thus make her appear to be the group member who was not a "team player". This phenomenon is likely to occur in many contexts, especially within real-world organisational settings, and may have profound effects on the outcome of the task.

Unshared Information

The unshared information that the groups received was discussed with varying degrees of success and openness. Research has consistently shown that negative information is more frequently discussed than positive information (Wittenbaum et al., 2004). Table 42 below shows the number of pieces of information per category and the number of pieces of information discussed by each group.

Table 42: Amount of shared, unshared positive, unshared negative and unshared neutral information discussed by each group

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Shared (20 pieces of info)	7	13	15	11	14	15
Unshared Positive (11 pieces of info)	0	6	2	2	3	3
Unshared Negative (7 pieces of info)	3	5	4	4	5	4
Unshared Neutral (6 pieces of info)	0	1	0	1	2	0

The current study confirmed the findings in the literature as together the groups discussed 24% of unshared positive information and 59.5% of unshared negative information. All groups except one group (Group 2) shared more negative pieces of information than positive pieces of information. The group members often discussed the unshared positive information when they were campaigning for a specific applicant to be selected. The unshared negative information was generally shared to ensure that the perceived incorrect candidate was not selected. It is interesting that throughout the discussions more negative information was shared. This indicates that there was more discussion on the incorrect candidates than the candidate that the groups believed to be the correct candidate.

Three pieces of the unshared positive information were not discussed by any of the groups. No more than three groups discussed any piece of unshared positive information. The piece of information that states “Isabelle is an excellent mediator and speaks four languages – English, Afrikaans, French and Zulu” was discussed by three groups. Two groups (Group 3 and Group 4) viewed this as positive while Group 2 viewed it as neutral as not all of the languages were official languages of

South Africa. Two groups (Group 2 and Group 5) identified that the information “Sibu is well liked by his colleagues and is always the centre of attention” as neutral.

Only one piece of negative information (Johann can get side tracked by the software advancements and forget about the actual task at points) was not discussed by any of the groups. Perhaps this piece of information was overshadowed by other negative pieces of information about Johann that were considered to be more severe or more relevant. All six groups discussed the piece of information that states that “Isabelle is currently pregnant with her first child”. All groups except Group 3 and half of Group 5 viewed this as a negative piece of information. Group 3 viewed it as positive as they believed that children can actually increase a person’s working ability, especially with respect to planning and responsibility. Group 5 were split about their opinions of the pregnancy. Half of the group viewed it as negative while the other half viewed it as neutral. It is interesting to note that Isabelle’s pregnancy played a role in all of the groups’ decision-making on where she should be ranked. The Employment Equity Act (No.55 of 1998) states that “no person may unfairly discriminate, directly or indirectly, against an employee, in any employment policy or practice, on one or more grounds, including race, gender, sex, **pregnancy**, marital status, family responsibility, ethnic or social origin, colour, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language and birth” (Chapter 2). It seems that the group members were not aware of the legislation surrounding employment in the country or that they felt that they did not need to be guided by this legislation when asked to make a hypothetical decision.

The piece of information that stirred the most debate amongst all of the groups was “there is an alleged sexual harassment incident reported by a female colleague against Rajesh”. All the groups except Group 6 discussed this information. In each of the groups Red was given possession of this unique information. Red in Group 6 favoured Rajesh from the outset and, although stating on her post-task questionnaire that she did not withhold any information, she did not mention the sexual harassment allegation to the group. This omission clearly allowed her preferred candidate to be perceived more positively and was possibly deliberate. Group 1, Group 3 and Group 5 viewed the information as negative but did discuss the fact that the incident was *alleged*. Group 4 viewed the information as neutral as they decided that the matter

could be as simple as “complimenting someone and them taking it the wrong way” (Group 4, Blue, Video). In Group 2, Red raised the information but it was not heard by the other group members as they were continuously talking over each other. After the group had reached a decision and before the post-task questionnaire, Red in Group 2 expressed his concern over Rajesh’s sexual harassment incident to Green in Group 2, who heard this for the first time. Green later commented on his post-task questionnaire that Red “never shared the fact that A [Rajesh] is a sexual offender” (Group 2, Green, Questionnaire). The researcher can confirm that Red did in fact share this information as it is captured on video.

This raises an important issue as the nature of the hidden profile implies that if information is shared then it assists to various degrees in the decision-making of the group. Technically the piece of information was shared with the group but it was not heard and therefore did not contribute to the decision-making process. Simply sharing the information is not sufficient if a best decision is to be reached; each piece of information needs to be heard and discussed.

It is interesting to note how little of the unshared neutral information was discussed by the groups. There were three pieces of unshared neutral information that were not discussed by any of the groups. Two pieces were discussed by one group only. The most interesting piece of information in this category was “Rajesh owns a holiday house in the south of France”. Group 4 and Group 5 both viewed this piece of information as negative as they believed it made Rajesh sound arrogant and egotistical. Yellow in Group 4 and Yellow in Group 5 both took an immediate dislike to Rajesh and referred to this information in a negative manner more than once in their group discussion. This supports the notion that information can be perceived differently based on the way one wishes to perceive it or the lens through which one views the context that is built up using other information. It also highlights how the interpretation of information can be affected by how or if the information is then presented to the group.

An interesting study by Larson (1998) showed that groups discuss shared information at the beginning of the discussion; and the unshared information seems to be discussed only after all the shared information has been mentioned

(Wittenbaum et al., 2004). It follows that groups will share more unshared information if they have finished discussing all of the shared information that they have been given (Wittenbaum et al., 2004). This process was true in the majority of the groups. Although none of the groups discussed all of the shared information, most of the groups began by discussing the shared information at length. The unshared information became apparent when one group member would raise a piece of information that another member would not recognise. The time that it took each of the groups to discover that they had different sets of information varied as many of them were focused on discussing the demographic and educational information of each of the applicants. This dynamic could be altered by explicitly stating in the task that each group member has received unique information and by differentiating the unshared information from the shared information.

The notion of discussing unshared information after the shared information relates to the duration of the discussion and indicates that more unshared information will be discussed as more time elapses (Wittenbaum et al., 2004). Table 43 below shows the percentage of unshared information that was discussed by each of the groups in relation to the duration of each group's discussion.

Table 43: Percentage of unshared information discussed and duration of discussion

	Percentage of unshared information discussed	**Duration of discussion**
Group 1	12.5%	6 mins 30 secs
Group 2	50%	14 mins
Group 3	25%	12 mins 10 secs
Group 4	29%	17 mins
Group 5	42%	20 mins 20 secs
Group 6	29%	10 mins

Group 5 had the longest length of discussion and the second highest percentage of unshared information discussed. Group 2 had the highest percentage of unshared information discussed and the third longest duration of discussion. As discussed earlier, although some information was raised by Group 2 it was not heard by the group members owing to them talking over each other. Group 1 showed the lowest scores in both categories which suggests that there was insufficient time for the

group to discuss the unshared information. There is reasonable evidence to support the notion that more unshared information will be discussed as more time is spent on group discussion.

Research suggests that information sharing is more likely when group members regard the information as relevant to the task (Wittenbaum et al., 2004). It is interesting to note what types of information the group members regarded as relevant and important to share. Table 46 below shows a brief summary of what the group members felt was the most important information to share as reported in the post-task questionnaires.

Table 44: Group members' thoughts on what information was most important to share

	Red	**Yellow**	**Blue**	**Green**
Group 1	Sexual harassment.	Experience and education.	Applicant's character.	Qualifications and experience.
Group 2	Experience.	An argument to select Rajesh.	Negative aspects of each applicant.	Ability to deal with people/clients.
Group 3	Negative aspects of each applicant.	Sexual harassment and marital status.	Personal attributes and qualifications.	Qualifications and experience.
Group 4	Experience.	Information related to the job requirements.	Information related to the job requirements and personal information.	Information related to the job requirements.
Group 5	Personal attributes.	Applicant's character.	Pregnancy.	Gout.
Group 6	Recommendations, age, certain qualities	Experience at 5 companies.	Qualifications, experience and personal characteristics.	The people skills.

After examining the table above it is clear that the group members considered a number of different aspects to be of importance. Information that was repeatedly considered to be important included: qualifications, experience, personal attributes

and information related to the job requirements. These findings are in line with the literature on the subject. The piece of information regarding the sexual harassment incident involving Rajesh was considered by most groups to be important except for Group 6 as Red in Group 6 did not raise this information and Group 4 who considered this information neutral and therefore unimportant. Dennis (1996) suggests that group members consider the relevance of the information before deciding to share it or not (Toma & Butera, 2009). Many pieces of the unshared information might not have been discussed because various group members considered them irrelevant and unimportant. This might explain why the unshared neutral information was the category of information that was discussed the least across all of the groups. This concept may have far-reaching consequences in groups in the real-world. Group members might withhold information owing to its seeming unimportance and lack of relevance, yet this information is of high importance and relevance to another group member who perhaps possesses other information that when combined with that withheld information will make more sense or be of more value to the group as a whole. This may be especially true of groups comprised of members with different experience, knowledge, expertise or skills. The multidisciplinary nature of the group may restrict group members' abilities to differentiate the level of importance of certain pieces of information.

Wright, Luus and Christie (1990, as cited in Hirokawa & Poole, 1996) suggest that discussion increases the chance of information sharing especially if the group view the information as relevant to the task and if arguments emerge about how relevant certain pieces of information are to the task. This was especially true in certain groups where it was found that arguments about how important certain pieces of information were encouraged information sharing. It was found that if a group member mentioned information that another member considered irrelevent, in order to clarify this irrelevance, that group member would share contrary information or information that they believed was more important. For example, in Group 3 the discussion about Isabelle's pregnancy encouraged other members to discuss her time management skills and other strengths so that she would still be considered in a favourable light. Another example was in Group 4 when Red shared that there was an alleged sexual harassment incident involving Rajesh and was fairly quick to dismiss this along with Blue. Yellow then shared the information about his holiday

house and how she perceived him as arrogant. This was done to show that the sexual harassment incident might be of more relevance than her group members initially thought.

The argumentative nature of Group 2 and Group 5 encouraged a greater amount of information sharing.This notion raises concerns about information sharing being more limited if the group members are less argumentative as was evidenced by Group 1. It follows that groups that are comfortable enough with each other to allow arguments to take place regarding the relevance of information (within reason) will increase the likelihood of information being shared. This notion encourages the group to put their individual thoughts forward and to move away from groupthink. Janis (1972) coined the phrase groupthink and defines it as a “psychological drive for consensus at any cost that suppresses dissent and appraisal of alternatives in cohesive decision making groups” (Janis, 1972, p.8). It should be noted that although the concept of groupthink is a common term that appears to be negative in all contexts, there is research to suggest that some of Janis’ theory may have underlying weaknesses (Aldag & Fuller, 1993). Despite the criticisms, groupthink is a construct that holds a great deal of value in contemporary research on groups (Esser, 1998).

It is a widely discussed phenomenon that group members of groups in organisations will strategically share and withhold pieces of information (Mitusch, 2006, as cited in Toma & Butera, 2009). There are various findings as to what motivates these actions. One of the questions posed to all the group members in the post-task questionnaire was what motivated them to share information. The answers to this question were somewhat revealing of the group members’ motives and perceived outcomes of sharing the information. The most common reason that group members shared information was to have their opinion heard. This suggests that these group members believed that they had something additional to contribute to the discussion, or that their opinion should carry some weight in the decision-making process. This finding sheds some light on real-world scenarios as it is clear that being heard by the other group members ranks highly as a motivator to share information. This then leads to the question of whether group members are too caught up in making sure that they are heard that they forget to listen to what is being shared by other group

members. As was seen in Group 2, simply sharing the information is not sufficient; the information needs to be heard by the group.

The second most common answers were task-related. The group members were motivated to share the information that they had received in order to prevent the wrong candidate from being selected or to ensure that the correct candidate was selected. This suggests that these group members felt that the information that they shared played a major role in the decision-making process and it also emphasises the task rather than the individual raising the information. Interestingly one person stated that they shared information in order to change the direction of the discussion, while another person stated that they were not motivated to share information as they were concerned that it would change the direction of the discussion. This shows a willingness to change the status quo on one side and an avoidance of this on the other. This could be due in part to the group members' personalities or the overall sense of acceptance and comfort within the group. Group members with a more quiet nature would be less inclined to speak up and change the direction of the discussion while more extrovert and argumentative personalities would probably be more comfortable with changing the direction of the discussion. A group member is probably more inclined to share and change the direction of the discussion if they feel a sense of acceptance and comfort within the group. Group members would presumably shy away from altering the direction of the discussion if they felt that this would result in alienation or lack of acceptance from the group. This is highlighted by an additional motivation to share information that was found in the study.

There were group members who were motivated to share information because they felt comfortable to do so or because they felt their opinion mattered to the group. This indicates that a sense of familiarity or acceptance within the group environment may encourage members to share information more freely. Other factors that motivated group members to share information included reaching a decision as a group and coming to a compromise. This highlights that these group members were motivated to share information in order to reach common goals. Some group members commented that they shared information as they thought the information was important and that the other group members should be made aware of it.

Another group member stated that she was motivated to share information so that all of the applicants were given a fair chance in the selection process.

There are many factors that motivated the group members to share information. Some were task related, others were based on group goals, others were aimed at the process and some were founded on the group members' feelings of acceptance within the group. The majority stating that they wanted to have their opinion heard is an interesting point to note. This is evident in the amount of time that many of the groups spent talking over each other.

The sharing of information (including unshared information) should occur if the primary goal of the group is to be cooperative in the process to achieve a common goal (Toma & Butera, 2009). If a level of competition to achieve a variety of goals exists, the potential for the sharing of unshared information decreases as group members are more likely to act in a competitive manner and make strategic decisions to benefit themselves before the group (Toma & Butera, 2009). The varying motivating factors expressed by group members indicated that the goals of some of the group members were not common. This may have led to strategic decisions to share information. For example, Yellow in Group 2 commented that "I felt that A [Rajesh] should get the job, and as such, it was vital to ensure that the best argument in his favour was put forward" (Group 2, Yellow, Questionnaire). This evidences his goal of ensuring Rajesh was selected rather than the group goal of ranking candidates in order of preference. These types of strategic decisions, although minimally deceptive or malicious, could have affected the amount of unshared information that was discussed. There is research to suggest that a competitive environment may lead to deceptive or strategic information sharing in groups (Toma & Butera, 2009). Perhaps the competitive environment that was deliberately created in this task impacted on the development of this strategic information sharing. It is difficult to measure the impact that the competitive environment had on strategic information sharing as very few of the group members explicitly stated that they had withheld information deliberately for strategic purposes. It can be inferred in a number of cases that information was deliberately withheld or shared in order to meet the goals of the individual group member and as such, can be deemed strategic information sharing.

It has been said that information sharing within an organisational context is a “biased process” (Wittenbaum et al., 2004, p.298). This statement suggests that group members will have a preference for type of information that they will be motivated to share and they will have goals that will either motivate them to share or withhold certain information for their own individual or for mutual benefit (Wittenbaum et al., 2004). Reasons to withhold information may include “saving face, avoiding conflict or change, acting in a manner consistent with organisational norms, or not being labeled a trouble maker” (Wittenbaum et al., 2004, p.298). Alternate reasons were offered by group members when they were asked whether they withheld any information in the post-task questionnaire.

The majority of the sample stated that they did not withhold any information. Two group members stated that they did withhold information and one group member stated that she only “half” withheld information. Yellow in Group 1 stated that she withheld information “for applicant D [Johann] because he didn’t meet the requirements. I also withheld stuff as I was worried that I had not remembered it correctly. My memory, you know.” (Group 1, Yellow, Questionnaire). It is important to remember that Group 1 Yellow was visually impaired. Research has shown that keeping possession of the task information sheet for the duration of the task enabled group members to share more information than those who were required to memorise the sheet (Wittenbaum et al., 2004). It has been said that the expectation of expecting perfect recall of information without allowing group members to keep the information sheet is unrealistic (Stasser, 1992). According to this research it seems likely that Yellow’s memory and recall of information would have impacted the amount of information that she withheld as she was not in possession of the information sheet. Having said that, she also commented that she withheld information about one of the candidates that she felt was unsuitable. This is an example of strategic withholding of information.

Blue in Group 6 stated that she withheld information regarding the applicants’ hobbies as she believed these were irrelevent. Interestingly, the information about the applicants’ hobbies was shared and was brought up in Group 6’s discussions in an interesting manner. Green in Group 6 expressed that golf as a hobby was an

advantage as it was a good networking tool for business. It is intersting to note that Blue did not share these views or value this contribution to the discussion. Green in Group 4 said that she “half” withheld information. Her comment about this was: “I didn’t give all information straight away, I gave information when I thought it would contribute to the decision or when I thought it was relevant” (Group 4, Green, Questionnaire). Again, this raises the issue of what group members consider to be important and how information they deem unimportant might not be shared and therefore affect the decision-making process.

The remainder of the sample stated that they did not withhold any information. The main reasons for this were: that it was not necessary to withhold information; it would have been unhelpful to the group; and that they shared what they believed was important to share. Other reasons included: ensuring that each applicant was given a fair chance; and that they felt they could share openly within the group. Interestingly the notion of acceptance and comfort within the group was mentioned as a reason to not withhold information. This supports the previously discussed factors that motivated information sharing.

Some group members viewed withholding information as a negative personal characteristic. Yellow in Group 5 stated: “I am not that way inclined to begin with so in information sharing with my friends, I didn’t feel the need to hold anything back” (Group 5, Yellow, Questionnaire). Red in Group 6 stated that “whatever was stated on my sheet I discussed openly with the other members of the group” (Group 6, Red, Questionnaire). Despite this report, Red in Group 6 failed to share the alleged sexual harassment incident involving Rajesh with the group. Red in Group 6 favoured Rajesh initially and may have strategically withheld this information to ensure that Rajesh was the preferred choice of the group. The observed behaviour of Red in Group 6 calls into question the behavior of individuals in real-world scenarios that state that they have shared all the information in their possession but they have actually withheld important pieces of information. This raises the question of how this type of behaviour can be identified before it impacts the group decision making process or at least how its effect can be mitigated. This is an important question that is beyond the scope of this study but holds a great deal of value.

“Group members not only are strategic about what information they share and to whom they share it, but they also are strategic about how they mention information” (Wittenbaum et al., 2004, p.300). The manner in which information is shared also impacts the way it is received. For example, in Group 4 when Red raised the sexual harassment incident, she did it matter of factly instead of with condemnation in her voice. It was received well and dismissed quickly by Blue saying it could be as simple as “complimenting someone and them taking it the wrong way” (Group 4, Blue, Video). Also in Group 4 when Red raised the issue that Sibu drinks after work, she followed it up by saying “I drink after work too and I’m a nice person” (Group 4, Red, Video) and giggling. This piece of information was then received in a jovial manner and did not impact the decision-making process. Another example of how information is presented was seen in Group 2 where Red raised the information about the alleged sexual harassment incident but it was not heard by the other group members as they were continuously talking over each other; and it therefore did not contribute to the decision-making process. In contrast, Group 3 took this information very seriously as this is the way it was presented. They wanted to protect their other employees and so they ranked Rajesh last almost exclusively based on that piece of information. It is clear that the manner in which information is presented can impact how that information is interpreted and therefore how that information is used in the decision-making process.

Decision-Making

Research has shown that if groups rank their decision alternatives in order of preference rather than merely selecting one best decision, the hidden profile is more likely to be solved and more information is likely to be shared (Hollingshead, 1996, as cited in Wittenbaum et al., 2004). Interestingly, the majority of the groups found it easier selecting their top candidate than ranking the remaining candidates. In the process of the ranking, more information was discussed which often led to a change in the initial top ranked candidate.

The groups’ decisions are tabulated in Table 45 below. Group 2 and Group 4 made the same decision, while the remainder of the groups all made different decisions.

Table 45: Ranking of group decisions

Rank	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
1	Sibu	Rajesh	Isabelle	Rajesh	Isabelle	Rajesh
2	Rajesh	Johann	Sibu	Johann	Rajesh	Isabelle
3	Isabelle	Isabelle	Johann	Isabelle	Johann	Johann
4	Johann	Sibu	Rajesh	Sibu	Sibu	Sibu

When the group decisions are compared to the best decision ranking (please see Table 46 below), it is evident that none of the groups made a decision that was the same as the best decision ranking.

Table 46: Best decision ranking

Rank	Applicant Name
1	Isabelle
2	Johann
3	Rajesh
4	Sibu

Group 5 made the decision that was the closest to the best decision. Interestingly, when one compares all the individual decisions of the group members across all of the groups with the best decision ranking, only Green in Group 2 reached the best decision alternative. As was discussed in the description of the task, it was noted that in the designed task the group members might select the best decision despite not having all the information. This might happen because the group member places a greater emphasis on specific information such as education and experience and therefore would favour the applicants in the same order (by chance) as the best decision. In this case, Green in Group 2 placed increased emphasis on the applicants' 'people skills'. The initial information that Green possessed in this regard led him to select the correct ranking order because of this emphasis.

Research has shown that when tasks are viewed as being more judgement-based rather than solvable, the likelihood of reaching the best decision is reduced and generally less information is shared (Stasser & Titus, 2003; Wittenbaum et al., 2004).

This task was largely viewed as more judgement-based as the group members were predominantly more interested in their opinions being heard than collating all the data on each applicant in order to make an informed decision. The researcher was not asked post-task by any of the group members what the correct decision was. This indicates that the group members were satisfied with their decisions and that they believed there was no "best choice". The judgement-based nature of the task might have impacted on the amount of information that was shared as well as the failure of the groups to reach the best decision.

It is important to examine what factors might have contributed to each of the groups not reaching the most favourable decision alternative. In doing so it is sometimes necessary to refer to the individual as well as the group decisions (please refer to Appendix K for a summary of these).

Group 1 failed to discuss a large proportion of the information and hence the duration of their discussion was significantly less than the other groups. Yellow in Group 1's disability impacted on the amount of information that was shared by her as well as the flow of discussion as she played a very passive role. The group failed to pool their resources and no arguments emerged. The discussion appeared to be superficial, brief and lacking a sense of debate. These might have been contributing factors to their group not reaching the most favourable decision.

Group 2 began with Green favouring the best decision alternative. Findings suggest that if one of the group members begins the task by preferring the most favourable decision alternative there is an increased chance that the hidden profile will be solved by the group (Wittenbaum et al., 2004). Despite this initial advantage, Group 2 were shifted away from Green's individual decision through a process of argumentative discussions in which group members spoke over each other. It is the opinion of the researcher that this is one reason for Group 2's failure to reach the best decision alternative. Another possible reason could be Green's readiness to give up his initial decision in order to "find middle ground between 2 group members' debates" (Group 2, Green, Questionnaire). Green took his role as leader very

seriously and in the process of trying to instill a sense of compromise, he might have swayed the group away from the correct decision.

Interestingly, Group 3 all ranked Isabelle as their first choice in their individual decision. Findings suggest that when the group disagrees about the best decision at the start of the discussion, the probability of reaching the best decision is increased (Wittenbaum et al., 2004). The converse is also true. The lack of disagreement in Group 3 might have impacted how much information was discussed about different alternatives and hence affected their overall decision-making. Group 3 also exhibited less arguments than some of the other groups which may have decreased the amount of information that was shared by the group and thus affected their decision.

Group 4's group decision was the same as Red and Blue's individual decisions. The vast majority of research suggests that groups will work cooperatively toward to group goal of reaching the best decision possible (Stasser, 1992; Toma & Butera, 2009; Wittenbaum, et al., 2004). However this sense of cooperation can be destroyed by any incentives that are offered or even simply by a group member's desire to have their preferred decision become the resultant group decision (Wittenbaum et al., 2004). It appeared to the researcher that Blue seemed adamant that her decision should become the group decision. When she discovered that Red supported her decision, she became more dominant and persistant that their decision be the overall decision, but she still allowed other group members to voice their opinions. This dominance limited the extent to which other alternatives were considered.

Group 5 showed varying levels of agreement in their individual decisions. This sparked a fair amount of debate, especially regarding the ranking of Isabelle and Rajesh. Research suggests that when group members disagree about the best decision prior to discussions, it increases the amount of unshared information that is shared by the group as well as increases the speed and comprehensiveness of these discussions; this is then said to assist the group in reaching the most favourable decision (Wittenbaum et al., 2004). This notion was evidenced in the interaction of Group 5 who debated a great deal and therefore shared more information than the other groups at quite a rapid rate. This process led this group to

firstly run out of time to make their decision and secondly reach a decision that was the closest to the best decision alternative.

There is a growing body of research that suggests that decisions made by individuals differ significantly from the decisions made by groups of individuals (Ambrus, Greiner & Pathak, 2009). This is true, except if the group members refuse to compromise and change their individual decisions, as was the case in Group 6. Red and Blue shared the same individual decision and refused to entertain any changes to their ranking throughout the group discussion. They strategically withheld certain pieces of information (such as the alleged sexual harassment incident) in order to strengthen their campaign for their favoured candidates. The inability of these two group members to consider any other alternative decisions and the fact that the other two group members were dominated by this viewpoint led to this group's failure to reach the most favourable decision.

According to research, groups in a competitive environment are less likely to solve the hidden profile than groups in a cooperative environment (Toma & Butera, 2009). Accordingly, the finding that none of the groups reached the best decision is not surprising. After the completion of the interactions, none of the group members in any of the groups enquired from the researcher who would be given the promotion (as described in the task). This suggests that the level of competitiveness desired by the researcher might not have been reached. It is difficult to measure the impact that the competitive environment had on the decision-making process as there is evidence that it did contribute (for example, in Group 2) and also that it did not (for example, group members reporting that they were satisfied with the group decision despite it not being similar to their individual decision). Competition within the groups often led to arguments and debate which in turn led to more information being discussed which impacted the decision-making of the groups. The effect of the group dynamics in each of the groups should not be underestimated.

Group Dynamics

The group dynamics of each of the groups affected the amount of information that was shared, the decision that was made as well as the overall group interaction.

There are many aspects of group dynamics that were examined. It is important to remember that “teams don’t behave, individuals do; but they do so in ways that create team level phenomena” (Kozlowski & Bell, 2003, p.7). This suggests that the composition and behaviour of various individuals will be the foundation of group dynamics. Kozlowski and Bell (2003) suggest that “...it is impossible to understand team effectiveness without paying attention to the processes that unfold over time to yield it” (Kozlowski & Bell, 2003, p.7). Following these two notions, the group processes will be addressed as well as the actions of the individuals that are perceived to have affected the group process over the course of the group interactions.

Duration of Discussion

The first aspect that is important to discuss is the duration of each of the group’s discussions. Each group was briefed that they would have the same amount of time (20 minutes). Each of the group’s interactions concluded once they had reached a decision or the group was asked to make their decision immediately at the 20 minute time limit. Table 47 below shows the duration of discussion time before a decision was reached in each of the groups.

Table 47: Duration of discussion time before a decision was reached in each of the groups

	Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**
Duration of discussion	6 mins, 30 secs	14 mins	12 mins, 10 secs	17 mins	20 mins, 20 secs	10 mins

All the groups took varying lengths of time to reach a decision. Only Group 5 ran out of time and was asked to reach a decision immediately. It is interesting to note that the two groups that showed the longest duration of discussion were Group 4 and Group 5 which were the two all-female groups. These groups were followed by the all-male group who took the third longest amount of time. All three mixed-gender groups recorded the shortest duration of discussions. It is clear that the composition of groups influenced the duration of the groups’ discussions.

The general research trend suggests that the longer the time period, the more information can be shared (Wittenbaum et al., 2004). This was discussed previously and the current study found reasonable evidence to support this notion.

“Coordination is vital to group effectiveness in situations where a successful outcome for the entire group is the end result of numerous contributions or efforts by all group members” (Kozlowski & Bell, 2003, p.38). In line with this notion, research has found that discussions that are more structured often increase the amount of information that is shared and therefore increase the probabilty that a better decision will be made (Mennecke, 1997; Stasser, 1992). Another benefit of structured discussions is that it forces the group to take all the facts into account and avoid making impulsive decisions (Mennecke, 1997).

Group 1, Group 2, Group 3, Group 5 and Group 6 did not set out plans at the start of the discussion in contrast to Group 4 who did set out a plan. The plan was for each group member to share their individual decision and reasoning and then to begin the discussion on the group decision. Although this is not a detailed structure, it still provided a sense of direction for the group’s discussion. Group 1, Group 2, Group 4, Group 5 and Group 6 did not struggle to begin their group discussions as one of the group members (usually the perceived leader of each group) began by talking first. Group 3 struggled to begin the initial discussion - they looked around at one another for a brief period of time before commencing. This is probably due in part to the group members’ personalities and also the familiarity and comfort levels within the groups.

In most cases the discussion was brought to a close by one of the group members (usually the perceived leader of each group) announcing the final ranking and assessing whether the group had reached consensus. In the case of Group 5, the end of the discussion was initiated by the researcher as the group had reached the time limit. They were allowed a few more moments to decide on their final ordering. It appears that the long length of Group 5’s discussion assisted them in reaching the most favourable decision out of all of the groups. The longer amount of time that this group spent in discussion allowed for more information to be shared as well as more opinions to be heard. The researcher believes that had the group been allowed

additional time their final decision may have been different; it appeared that Yellow was forced into agreement, but given more time she may have put her views across more vehemently which may have altered the group's final decision.

It appears that the group member who assumed the leadership role in the group made a contribution to the structure of the discussion. Generally these leaders started and ended the discussions. The direction of the discussion was informed (to varying degrees) by the leaders (for example, Blue in Group 4). The impact that group members had on the structure and direction of the discussion was affected by the role that they played as well as their goals (for example, Yellow in Group 1 and Yellow in Group 2). The duration of the discussion was also influenced by the number of talking turns that each group member recorded.

Talking Turns

The number of talking turns that are taken per group indicate the nature of the discussion (civil versus argumentative) and the manner in which the discussion took place (all talking over each other or even insufficient communication).

Table 48: Total number of talking turns per group

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Total number of talking turns	69	236	123	221	323	214

If one looks at the number of talking turns per group in relation to the duration of discussion, the results are fairly interesting. Group 1 showed the lowest number of talking turns and the shortest length of discussion; while Group 5 showed the highest number of talking turns and the longest duration of discussion. These findings appear logical. Group 3 and Group 4 showed a relative number of talking turns that one would expect for the duration of their groups' discussions. Group 2 and Group 6 show an unexpectedly high number of talking turns in relation to the length of their groups' discussions. One of the potential reasons for this elevated number of talking turns in both of these groups is the excessive amount of time that the group members spent talking over each other, talking at once and repeating information

that had already been discussed. This nature of the discussion was detrimental in some circumstances. The group members would have benefitted from taking slightly fewer talking turns and listening to the other group members more.

Research indicates that increased amounts of talking turns may reflect the presence of conflict (Kozlowski & Bell, 2003). The debate and arguments that occurred in Group 2, Group 5 and Group 6 could be viewed as a type of conflict and may have increased the number of talking turns that were taken throughout the group interactions, and also the amount of information that was shared. Baron (1991) suggests that disagreements and arguments in group interactions promote new ideas, discussion and hence information sharing (Jehn et al., 1999). This notion appeared to be true in most instances, however, too much disagreement and too many arguments could also negatively affect the group's interaction; although too few arguments and disagreements can be detrimental to the group as groupthink may arise. There needs to be a balance in order for the arguments to lead to beneficial information sharing.

Research done by Ng, Bell and Brooke (1993) found that group members who have the highest number of talking turns within a group are more likely to influence the discussion than group members who take less talking turns (Hirokawa & Poole, 1996). This was true across all of the groups. Interestingly the perceived group leaders who recorded the highest number of talking turns were Blue and Yellow in Group 4 who shared the leadership role, Red in Group 5 where the group said that no leader emerged but the researcher identified Red as the leader and Blue in Group 6. It should be noted that there was not a substantial difference in the number of turns taken by these leaders and the rest of their group members. In Group 1, Group 2 and Group 3, it was not the perceived leader who recorded the highest number of talking turns. This suggests that the number of turns an individual engages in does not necessarily reflect leadership; rather the contribution that they made and the manner in which they communicated affected the group members' perception of who assumed a leadership role.

The passive roles that were played by various group members within each group are also interesting to note. In Group 1, Yellow played a very passive role, partly due to her being visually impaired. She was exceptionally quiet in the group discussions but more vocal in the post-task questionnaire. In the questionnaire, Yellow revealed that she was scared to talk and "also withheld stuff as I was worried that I had not remembered it correctly. My memory, you know." (Group 1, Yellow, Questionnaire). The link between these comments and literature on the matter has been discussed. There is strong evidence to support the notion that group members who could re-read the information sheet had an advantage, shared more information and contributed more to the discussion.

In Group 2, Red played a more passive role. The researcher noticed that he was quiet-natured and found it difficult to make himself heard especially when the others were speaking over him. Red became more vocal towards the end of the interaction. In Group 3, Yellow recorded the least number of talking turns. The researcher believes that this was his nature and not a consequence of the interaction. This was supported by Yellow's statement "hence me being a man of little words" (Group 3, Yellow, Questionnaire). In Group 4 Red and Green showed less talking turns than Blue and Yellow but were still very active in the conversation. Interestingly Blue and Yellow were identified as the leaders in this group. In Group 5, Blue took less talking turns than her fellow group members. There was a fair amount of people speaking over each other and Blue was not loud enough to contribute unless there was silence. Often, various group members would invite Blue to comment. Blue became more vocal towards the end of the interaction. In Group 6, Yellow played a very passive role. She was quiet by nature and could not enter the conversation as there was a great deal of talking over each other. This was noticed by the group - Blue commented that Yellow "could have been more vocal" (Group 6, Blue, Questionnaire) and Green stated that Yellow was "quite quiet and agreeable" (Group 6, Green, Questionnaire).

Whether through personality or group dynamics, these individuals all played more of a passive role in the group interaction. It is interesting to note how various roles emerge within a group where no roles have been defined by an authoritative figure. One wonders whether these individuals would have acted in the same manner in a

different group. The number of talking turns influenced the roles that the group members assumed. Those that took fewer turns were seen as passive while those who took more turns were seen as more active (in some cases seen as the leader); the more talking turns a group member recorded, the more influence that group member had on the decision.

Researchers have found that individuals might be too competitive to work together even when instructed to work cooperatively (Toma & Butera, 2009). It has been found that some group members view their success on an individual level as being linked to the other members' in some way (cooperative) while others view it as an individual achievement which may be detrimental to the rest of the group (competitive) (De Dreu, 2007). The competitive nature of some of the group members increased the number of turn taking. For example, Yellow in Group 2 was adamant that Rajesh should be ranked first and so he constructed numerous arguements to support this. Accordingly the number of talking turns shown by him was elevated. The effect of group members' competitive natures on the interaction and decision-making is difficult to quantify and can only be highlighted by certain incidences (as mentioned above). In most cases the competitve side of a group member emerged as a result of wanting their individual decision to become the group decision. This links up with the motivating factors that affected information sharing, specifically the desire to have their voice heard. It follows that those group members who were very competitive and wanted to alter the group decision (and also achieve a feeling of "being right" about their individual decision) would share more information in order to sway the group towards the desired decision. In this sense, the competitive nature actually increased information sharing and therefore benefitted the group overall. The influence that the competitive aspect had on the number of talking turns as well as the amount of information sharing was evident.

Group Familiarity

An interesting dynamic to address is the level of familiarity within each group. Each group recorded a different level of familiarity as can be seen in Table 49 below.

Table 49: Average level of group familiarity for each group

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Average level of group familiarity	12.25	25.75	14.5	20	23.5	23

Range: 3 (never met) to 30 (good friends or family).

The average levels of group familiarity varied from 12.25 to 25.75. Members of Group 1 were the least familiar with one another. Perhaps this was one of the reasons that their discussion was brief, little information was shared and hence a poor decision was made. Group 2 showed the highest level of group familiarity. This was evident in their interaction that appeared more jovial yet argumentative. The group members were clearly comfortable with one another and were able to disagree with each other openly. The downside of this is that the group members spoke over each other a great deal and did not hear each others' points and therefore a large amount of repetition was necessary. The group that reached the decision that was closest to the best decision was Group 5. Group 5 experienced the second highest level of familiarity across all of the groups. Perhaps not knowing each other as well as Group 2 knew each other allowed the members of Group 5 to still be comfortable sharing, discussing and disagreeing but also to respect each other's talking turns which ultimately led to a better decision. This sentiment is echoed in research: "interpersonal cohesion allows groups to have less inhibited communication and to effectively coordinate their efforts" (Kozlowski & Bell, 2003, p.32).

However, disagreement is also found in the research on familiarity amongst group members and its effect on information sharing (Wittenbaum et al., 2004). The findings in the current study suggest that too little familiarity resulted in less information being shared, while too much familiarity resulted in distracting occurances such as talking over each other, talking at once, not listening to one another and not respecting each others' talking turns. The optimal level of familiarity appears to be moderately high, as this allows group members to experience the comfort and acceptance that familarity offers even when there are disagreements, but also to maintain respectful boundaries and polite conversation protocol (for the

majority of the interaction). It can be seen how group familiarity affected the number of turns taken per group and therefore affected the duration of the discussion.

Research has shown that groups with high levels of group cohesion generally share more of their unshared information with each other than groups with low levels of cohesion (Devine, 1999). This can be associated with the levels of familiarity to some extent. This study suggests that moderately high levels of cohesion/familiarity will lead to more unshared information being discussed and listened to the first time that it is raised. It is interesting to note that in the post-task questionnaires the majority of the group members stated that they had performed well as a team and declared themselves "a pretty good group…" (Group 2, Yellow, Questionnaire). This is evidence that most group members experienced some level of group cohesion. Those groups that experienced higher levels of group cohesion (inferred from comments on the questionnaire) were Group 2, Group 4, Group 5 and Group 6 which is in line with the familiarity scores that were calculated.

The levels of familiarity and cohesion within the groups impacted many other aspects. Increased familiarity resulted in an increased number of talking turns as the group members were comfortable in sharing with each other but often spoke over each other which required certain pieces of information to be repeated. Low levels of familiarity resulted in fewer number of talking turns as the group members did not feel as comfortable sharing information with each other. This in turn influenced the duration of the group's discussion. Familiarity also affected the amount of information sharing that took place in each of the groups; higher familiarity led to more information sharing than lower levels of familiarity. It should again be noted that moderately high familiarity resulted in the most amount of information sharing.

The duration of the discussion was also affected by the level of familiarity within the group. Group 1 had the lowest level of familiarity and the shortest duration of discussion. This is probably due to the group members' low level of comfort in relation to discussing and disagreeing with one another. Group 2 had the highest familiarity score and the third longest discussion. The duration of Group 2's discussion was slightly shorter than expected in this context but this may be due to the fact that they were all talking over each other which would have decreased the

amount of time that they needed for information sharing. Group 5 had the second highest level of familiarity and the longest duration of discussion. Group 4 had the second longest duration of discussion as well as the fourth highest level of familiarity. Interestingly both Group 5 and Group 4 were all-female groups which seemed to affect the duration of discussion considerably.

Composition of Groups

Diversity in groups is often considered an asset. A diverse group's success in decision making is dependent on two factors: who is aware of what kind of information; and whether group members share that information (Phillips et al., 2004). Please refer to Table 53 in Appendix A for a summary of the demographic breakdown in each of each of the groups. Group 1, Group 3 and Group 6 were all groups comprised of both genders and different races. Group 2 were all same gender and race; while Group 4 and Group 5 were both all-female groups of different races. It is interesting to note that the group that made the decision that was closest to the best decision, Group 5, contained all females and three different races. Perhaps a sense of identity and unity is needed within the concept of diversity for a group to perform well; diversity in one aspect (either race or gender) but not both seemed to be the best group composition in the current study.

Research has shown that "…even in groups demonstrating performance benefits from membership diversity, group members report finding the experience frustrating and dissatisfying" (Amason & Schweiger, 1994; Baron, 1990, as cited in Jehn et al., 1999, p.744). This is a sentiment that is commonly expressed over the concept of group work in the real-world. The current study suggests that perhaps a moderately high level of group familiarity as was experienced in Group 5 or diversity in one aspect only eased the frustrations of group members.

Another drawback of group work is when sub-groups form within groups for certain reasons (social, cultural, political or even other reasons) and the potential for this to lead to the exclusion of some group members and sometimes even conflict (Phillips et al., 2004). There were no sub-groups that appeared to have emerged in the current study, potentially because the duration of the task was too short to enable

this to take place. There were, however, splits in groups when making decisions or taking certain pieces of information into account. For example, in Group 5 the piece of information about Isabelle's pregnancy was viewed as neutral by Red and Yellow; and negatively by Blue and Green. This created a great deal of disagreement and discussion in the group. Although no official sub-groups formed, it appeared that individual group members often sided with other group members who shared a similar viewpoint. At stages this became a situation where three people agreed and one did not (for example, Group 5 and Group 6). This stirred conflict within the group to some extent.

It is reported that same-sex groups share less unshared information than groups made up of mixed sexes (Wittenbaum et al., 2004). The current study found the complete opposite to be true. The same sex groups - Group 2 (all male), Group 4 and Group 5 (all female) shared the most unshared information of all six groups. Group 2 shared 50%, Group 5 shared 42% and Group 4 shared 29% (the same amount as mixed-sex Group 6). This may also be due in part to the high levels of familiarity that these groups recorded. Research shows that women discuss less total information than men (Wittenbaum et al., 2004). The current study agrees with these findings as Group 2 (all male) discussed more information than any of the other groups (which all contained females). Group 2 also recorded the highest level of familiarity which may also have contributed to the amount of information that they shared with one another.

These findings are interesting to note as clearly the gender composition of groups affects the amount of information sharing significantly. After examining the findings of this study and previous research it is clear that "…team composition is of research and practical interest because the combination of member attributes can have a powerful influence on team processes and outcomes" (Kozlowski & Bell, 2003, p.11). There is still a great deal of debate as to what group composition is ideal under what circumstances. The research and practical domains of the hidden profile are no different. For each study that advocates an optimal group composition, there is an opposing study that disconfirms those findings. More research is needed in this area in the future. It is widely assumed that men are generally more competitive than women. The observed levels of competition differed across the groups. It appears

that the composition of the group may influence the competitive aspects that they experience.

Jehn, Chadwick and Thatcher (1997) argue that group members who share similar educational histories will experience fewer obstacles in defining clear structure and processes than those that have differing educational experience (Jehn et al., 1999). The current study confirmed these findings. Group 5's success can be partially attributed to their shared educational histories as all four group members were in the same Honours class for Organisational Psychology. Interestingly, Group 6 were also all from the same class but did not experience the same level of success as Group 5. The researcher suggests that this is due to Group 6's short duration of discussion as well as the inability of two of the group members to compromise on their initial individual decisions. The group's discussion was dominated by arguments to support a specific decision; this included Red withholding important information. The discussion was guided in a specific direction by the leader of this group which highlights the importance of the leader's role.

Leadership

The leader of the group plays a critical role in the effectiveness of the group (Kozlowski & Bell, 2003). The leader can steer the group toward the best decision using specific approaches; or the leader may have a preferred, incorrect alternative that is imposed on the group by virtue of their role (for example, Group 6). The nature of the task meant that there was no leader assigned to each group; in essence the groups were leaderless unless a leader emerged (as is generally the case in self-directed work groups in the real-world). In order to ascertain whether the group members believed a leader emerged or not, this question was posed to them in the post-task questionnaire. Table 50 below is a summary of each of the groups and the colour of the leader that emerged.

Table 50: Leaders of each of the groups

	Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**
Leader	Green	Green	None	Blue and Yellow	Group: None Researcher: Red	Blue (not unanimous)

In most cases the group's and researcher's opinions about whether a leader emerged and which group member this was were in agreement. In Group 5 the group members reported that no leader emerged while the researcher felt that Red played a strong leadership role, especially towards the end of the interaction when a final decision needed to be given. In Group 4, two leaders emerged. There was no obvious competition between the leaders, although Blue was determined to have her individual choice become the final group decision so she appeared to be more dominant. In all cases there was no resistance to the leaders that emerged except in Group 6, where Green was extremely resistant to Blue's leadership. This may have been because of a past experience or the history of the group members as they were in the same class and familiar with one another. The leadership roles were influenced to some extent by the number of talking turns that each individual recorded. The group member with the highest number of talking turns was not necessarily seen as the leader but group members who recorded a low number of talking turns were seen as playing a passive role rather than a leadership role. Most leaders had one of the highest (if not the highest) number of talking turns in their group. This occurred because the leader needed to direct and guide the group to a decision; this was done by talking to the group.

The expertise of any members was not raised except in Group 4 where Red mentioned that she had prior experience of Yellow as a leader in another field. The role of a group member as an expert has been extensively researched. It has been found that when group members are perceived as experts this will increase the probability of information sharing and hence increase the probability of the group solving the hidden profile (Wittenbaum, et al., 2004). In the current study, although there were no formal experts it is possible that all the group members may have perceived themselves as being equally expert or equally non-expert. It is difficult to determine how much of an impact the concept of experts had on the amount of information sharing in each of the groups. There is evidence from the questionnaires to suggest that when group members felt that they possessed certain information that the others did not, they felt the need to share this information. In some ways this can be viewed as the group member being an expert on that particular piece of information. This type of situation did lead to more information sharing and affected

the groups' decisions to varying degrees – this is in agreement with the research in the field.

Leadership style is said to impact the ability of the group to solve the hidden profile significantly. Directive leaders may sway the group towards a decision (potentially incorrect) while participative leaders are likely to encourage all members to express their views and then use these views to reach a decision (Wittenbaum et al., 2004). In this study mostly participative leaders were evident. There were moments when leaders became directive, especially towards the end of the discussion when a decision was being finalised. There was a great deal of directing groups towards a specific decision that took place. This was usually done when a group member refused to compromise on their individual decision (for example, Blue in Group 4 and Blue in Group 6).

Leaders can play a number of roles that can affect the decision making process; including dialectical inquiry, devil's advocacy and consensus approach (Schweiger et al., 1986). Most of these approaches were present in all of the group interactions to varying degrees. The groups would utilise a different approach for different aspects of the decision-making process (for example, dialectical inquiry was used when deciding between two candidates for the top (or any) position; devil's advocacy was used when deciding whether specific factors (for example, Isabelle's pregnancy) would influence their work; and consensus was mostly used in the final stages of the rankings). There were no obvious moments where one approach worked better than another. The only important thing to note is where consensus was not reached on group decisions (for example, the ranking of Rajesh in Group 5).

Consensus is not necessarily a unanimous decision but rather reaching a decision that all the team agrees to and nobody contests (Yeatts & Hyten, 1998). Consensus has been found to lead to high quality decisions as the team members generally spend a great deal of time discussing alternatives before a decision is reached that is acceptable to all of the group members (Yeatts & Hyten, 1998). This type of decision making is said to increase trust amongst group members as the discussions that lead to the ultimate decision generally illuminate the reasons or factors that affected individual's decisions (Yeatts & Hyten, 1998). This was the case in most of

the groups in the current study when they explained the key pieces of information that informed their initial individual decision. A major drawback of the consensus approach is in a crisis situation, the team may not have time to reach a consensus and thus may end up losing the value that an early decision held or may even be overcome by the crisis itself (Yeatts & Hyten, 1998). This is similar to what happened in Group 5. They ran out of time at the end of the interaction and were forced to make a decision quickly. Yellow was adamant that Rajesh should be ranked lower but was out-voted by the rest of the group. Despite this lack of consensus, Group 5 still reached the most favourable decision out of all of the groups. This concept has significant consequences for real-world groups working towards tight deadlines. The urgency in which a decision needs to be made in a crisis or time-restricted situation may impact the ability of the group to reach a consensus and therefore pitfalls may be overlooked.

The decision making style of the group also impacts information sharing. In some groups the members take an advocacy approach by playing the role of devil's advocate to support their initial individual decision (Stasser & Titus, 1985; 1987). This approach generally results in the final decision that is deemed to be the most popular rather than the most optimal, as members are inclined to promote their initial individual decision at the cost of excluding important pieces of information that would have benefitted them (Stasser & Titus, 1987). This was evidenced in Group 6 when Red failed to mention certain pieces of information so that Rajesh (her preferred candidate) would be viewed in a more positive light. This concept also relates to the level of competiveness of the individual and also within the group as a whole. Red in Group 6 was clearly competitive and adament that her decision was correct and so she felt the need to withhold pieces of information which led to the most popular decision (shared by Red and Blue) instead of the best decision.

Research has shown that unshared information is frequently discounted or overlooked when it appears to threaten the dominant opinion of the group that is in the process of leading towards a decision (Stasser & Titus, 1985; 2003). Yellow in Group 1 expressed her concern about sharing information that would potentially change the direction of the discussion. In Group 2 there was a great deal of unshared information that was overlooked as it was not part of the group's dominant

opinion. Most of this information was held by Red and he was unable to express its importance over their talking. The dominant opinion and direction of the group's discussion have a significant impact on what information is shared and therefore what decision is made. The dominant opinion or direction of discussion often forms as a result of the leadership that the group receives.

It has also been found that a group that adopts a norm of critical evaluation increases the amount of information that is shared and thus reaches the best decision more often than groups that adopt a consensus norm (Stasser & Titus, 2003; Wittenbaum et al., 2004). This type of approach was seen in aspects of Group 5's discussion as firstly a consensus was not reached; also the group engaged strongly with the task by developing contingencies for when Isabelle was on maternity leave and internalising the task (for example, Yellow stated "if it were up to me I wouldn't have even short-listed Rajesh" [Group 5, Yellow, Video] and "Rajesh won't gel well with our company" [Group 5, Yellow, Video]). It is this approach of critical evaluation that assisted Group 5 in making the most preferred choice out of all of the groups but also led to their group recording the longest duration of discussion.

Competitive Aspect

The competitive environment was built in to the task by telling the group members on the information sheet (please see Appendix G) that the group discussion would be observed by senior management and the member of the panel that contributed the most towards reaching the final decision would be given a promotion. Interestingly none of the groups asked the researcher which group member would be given the promotion; or what the correct decision was. It appears that the group members did not buy in heavily to the competitive aspect as described in the task. This might be due to a number of reasons, including the personalities of the group members. Perhaps there were people who were not competitive by nature but there is some evidence to suggest that there were examples of some group members who were competitive (for example, Group 2 Yellow and Group 4 Blue). It may also be that the academic environment is one particularly conducive to encouraging respect for

differing opinions. This is then an aspect of the study that would not be reflective of the workplace in the real-world in most instances.

The extent to which competition impacted the information sharing and therefore overall decision-making cannot be measured in this study. The researcher chose not to ask about this aspect in the post-task questionnaire as it may have encouraged bias. The competitive aspect is evident in some of the other aspects of the study to varying degrees. The competitive aspect was found to affect the amount of information that was shared. There was evidence to suggest that there was tactical sharing of information by some group members to benefit themselves (for example, Group 6 Red). The familiarity of group members plays a crucial role in the competitive aspect. Group members that are more familiar with each other would probably be more inclined to disagree and show signs of their competitive nature to other group members. Unfamiliar groups may stick to polite conversation and avoid any conflict or competition amongst each other (for example, Group 1). The competitive aspect also influenced the number of talking turns that group members would take in order to make their viewpoints known, which in turn influenced the amount of information that was shared. This was especially true for the groups that appeared to be more argumentative in nature (for example, Group 2). The competitive aspect may also have influenced the duration of the discussion as those groups that were more argumentative (in competition to be heard or to influence the overall decision) recorded longer duration of discussions. The competitive nature (or lack thereof) may also have impacted the various roles that the group members took on. The more competitive and dominant individuals had a tendency to be viewed as leaders while those group members who were more quiet (and not in competition to be heard as much) were viewed as playing a more passive role.

In general the different aspects in group dynamics did not occur in isolation but rather as a consequence of another aspect; or as a precursor; or simultaneously; or even as an interaction of other aspects. The nature of the group interactions is fluid and cannot be captured in generic statements but rather in descriptions. The impact that the group dynamics had on the information sharing and decision-making varied across the groups.

Chapter 6: Conclusion, Limitations and Recommendations for Future Studies

Conclusion

This study aimed to make a theoretical contribution to knowledge that extended beyond investigating only what factors affected information sharing and moved towards how and why these factors engaged with each other to affect the group interaction. It aimed to unpack the process of information sharing within small self-directed working groups and look at why this might unfold in that specific way. “Team constructs and phenomena are not static” (Kozlowski & Bell, 2003, p.7) and this study aimed to capture an aspect of this fluidity.

The quantitative research in this area has made a valuable contribution to the understanding of information sharing but the nuances and dynamics that emerge in the interaction are often not taken into account. This study aimed to use a qualitative approach to shed more light on understanding the factors and dynamics within group interactions in a competitive environment and how they engaged with each other.

The competitive environment was designed into the task in order to replicate the competitive nature of real-world organisations. In real-world organisations promotions, bonuses and other reward schemes often encourage a sense of competition amongst group members despite requiring them to work collaboratively. The current study included this dynamic in the task in order to more closely reflect a real-world scenario.

The nature of group interaction is fluid and dynamic as it shifts with the group’s understanding, interpretations and discussion. This concept is largely ignored by the quantitative domain but can be emphasised using the qualitative approach. The qualitative approach used in this study aimed to address this missing element and examined the shifts, nuances and dynamics within the group interactions, specifically in relation to information sharing and decision-making.

The study found that more shared information was discussed than unshared information and that more negative unshared information was discussed compared to positive unshared information. These findings support previous research in these areas (Stasser, 1992; Wittenbaum et al., 2004). The dynamic nature of the pieces of information were interesting to follow. The manner in which the pieces of information changed categories (positive, negative or neutral) throughout the discussion was affected by how they were first introduced, the manner they were introduced in and the way that they were received. The notion of categorisation of information is not static and this has been largely overlooked by previous quantitative studies.

There were numerous arguments within the groups about what information was most relevant to the hiring context. These arguments led to increased information sharing. Information sharing was also increased by the competitive aspect – some group members who appeared to be more competitive than others shared more information in order to convince the group to make the group decision reflect that member's individual decision. It was found that simply sharing the information was not sufficient for it to contribute towards the final decision-making. The piece of information, once shared, needed to be heard by the other group members and also be seen as relevant in order to affect the decision-making process.

The majority of the group members stated that they were motivated to share information because they wanted to have their opinion heard. The majority of the sample noted that they did not withhold any information as it was not necessary and would be unhelpful in the decision-making process. However, there was evidence of strategic information sharing and withholding of information in some cases.

In relation to what decisions were ultimately made, all the groups made different decisions except for Group 2 and Group 4 who made the same decision. None of the groups reached the best decision, perhaps in part because of the judgement-based nature of the task or the lack of total information sharing in the groups. The researcher was not asked after the interaction by any of the groups what the correct decision was, nor did they ask about who would receive the promotion. This indicated that the level of competition that was designed into the task was not experienced at the desired level although there was evidence of a competitive

aspect at play in other areas (for example, strategic information sharing, arguments and campaigning for their individual decision to become the group decision).

Group 5 reached a decision that was the closest to the best decision out of all of the groups. Characteristics of Group 5 that could have contributed to them outperforming the other groups include: having the longest duration of discussion; the highest number of talking turns; respecting each other's talking turns; moderate levels of disagreement; no obvious role of leader; moderately high levels of group familiarity; diversity in race but not gender; similar educational backgrounds and a norm of critical evaluation.

Findings from the study suggest that increasing the duration of discussion and the number of talking turns should lead to increased probability of solving the hidden profile. A moderately high level of familiarity is preferable over high levels as this still means the group members will be comfortable sharing, discussing and disagreeing but will be more likely to respect each other's talking turns which will ultimately lead to a better decision. A moderate amount of disagreement is preferable whereas too much disagreement detracts from the task and too little disagreement leads to other decision alternatives not being explored.

This study suggests that diversity being present in only one aspect of the group – for example, either race or gender, but not both – may assist in reaching a successful decision. Perhaps a sense of identity and unity is needed within the concept of diversity for a group to perform well; diversity in one aspect but not both seemed to be the best group composition in the current study. There has been research that suggests that same-sex groups share less unshared information than groups made up of mixed sexes (Wittenbaum et al., 2004) however the current study found the opposite to be true. The current study supported the research that men share more information than women; that group members who share similar educational histories will experience fewer obstacles in defining clear structure and processes; and that a group that adopts a norm of critical evaluation encourages the sharing of unshared information and thus reaches the most favourable decision more often than groups that adopt other approaches. The current study also suggests that the leadership approach and decision-making styles of the groups were all very similar

and were therefore not important factors in analysing differences in the group process and decisions reached between the groups.

The current study found that the group dynamics of each of the groups played a vital role in the group interaction. The duration of the discussion was different across all six groups. Only one group (Group 5) reached the time limit and were then asked to make an immediate decision. The duration of discussion was influenced by the number of talking turns, the roles that the group members assumed, the composition of the group and the level of familiarity that the group recorded. The turn taking appeared to influence the roles of the group members and this is where the competitive aspect was seen. There were more dominant group members (evidenced by high number of talking turns) who wanted to have their opinion heard or to have their individual decision become the group decision and campaigned as such. The number of talking turns also affected the duration of the discussion especially when arguments arose and when groups were speaking over one another.

The levels of group familiarity were different across all six of the groups. Group familiarity was found to influence the number of talking turns of group members and therefore the duration of the discussion and amount of information that was shared. Interestingly the composition of the groups affected the duration of the discussion as the all-female groups recorded the longest durations of discussion. The competitive aspect was seen when there was a tendency by group members to side with those with similar view points (often there was a group member who swayed them towards this viewpoint) although no subgroups were formed.

The concept of self-directed work groups implies that no formal leader is assigned in the group. It was interesting to note who emerged as the leader within this context. In four groups a leader emerged, in one group there were two leaders and in another group there was no leader that emerged. The concept of number of talking turns was found to affect the emergence of these leaders. The study found that the leaders were predominantly participative but there were moments that called for a more directive approach, which was taken by most of the leaders especially at the beginning and closing of the interaction. The decision-making approaches of

dialectical inquiry, devil's advocacy and consensus were all employed at different parts of the decision-making process. There was no obvious trend as to which approach worked best. An approach of critical evaluation was found to increase the amount of information sharing and therefore the duration of the discussion, leading to better decision-making. The competitive aspect was evident when leaders attempted to convince the group to make the group decision the same as their individual decision. Some groups were convinced to follow the leader which led to the most popular decision being made instead of the best decision.

The exact extent to which the competitive aspect affected the interaction is difficult to quantify. As discussed, none of the group members asked the researcher about the promotion or the best decision. This indicates that perhaps the group members did not experience the competitive aspect at the level that the researcher desired. However, the competitive aspect is evident in other facets (for example, the amount of information shared, the number of talking turns, the duration of the discussion and the roles that the group members assumed).

It was found that the factors that affect information sharing often do not act in isolation but rather interact. It is that interaction that is of importance and an avenue that should be explored by future research. In general, the current study has shed light on some interesting issues as well as confirmed and expanded upon previous quantitative research. The current study can be viewed as an important first step in the area of interacting factors in information sharing and decision-making. It is hoped that this study is a platform from which future qualitative studies can be launched to examine what other factors play a role (and what other interaction of factors play a role) in information sharing in groups.

Limitations and Recommendations for Future Studies

The use of students as the sample for the study can be viewed as a limitation as students are not directly representative of employees in organisations. As students they might have been limited in their knowledge of hiring situations and the legal implications of decision-making in this context. Additionally, they may have had a certain mindset regarding the way in which to approach groupwork more illustrative of the university and academic environment than the work environment. This mindset may have affected the high tolerance and respect that was shown to other people's ideas; this may not be similar to the real-world workplace. The culture at the university encourages diversity and this may have influenced the type of information that the students felt was necessary to be discussed (for example, the debate about work experience versus qualifications) and what information should not be discussed (for example, race).

There are some potential issues of generalisability that arise out of using students as the context in which the students operate (as well as the associated mindsets and behaviours) is very different to that of the real-world organisational workplace. However in previous research of the same nature, student samples have been used (see, for example, Toma & Butera, 2009). In addition, the nature of the task required the students to *imagine* themselves as employees. The selected sample was not intended to reflect the population of employees but rather to serve as a vehicle to examine individual case studies in order to better understand the processes at play in the group interaction. The study flagged many issues and provided a great deal of insight. The next step would be to carry out similar research within actual organisations using employees as the sample.

As previously discussed, the task that was designed for the current study is a variation of a hidden profile. The biggest issue associated with the task was that the group members may not have been able to imagine themselves in the scenario appropriately or internalised the scenario to various degrees. This may have affected how seriously they took their decision-making and therefore the behavior that they displayed. It appears that none of the groups bought in heavily to the competitive aspect that was designed into the task. This was evidenced by none of the group

members asking about the best decision and who would receive the promotion. It may be that the academic environment is one particularly conducive to encouraging respect for differing opinions and thus not reflective of the degree of respect accorded to other group members in the workplace. This is an important limitation of the sample and the artificial scenario.

There were also aspects within the task information sheet that was given to the group members that could have influenced the interaction (for example, by not highlighting race on the information sheet this may have directed participants to not discuss it; and by not emphasising the unshared information this may have impacted how much information was discussed – if they knew what information was not shared, it may have prompted them to share more of it). The initial categorization of the information (positive, negative or neutral) was initially viewed as an obvious step in the process. The pilot study revealed the fluidity of how pieces of information can be categorised. The researcher could have extended the pilot study to gather information about how the majority would classify each piece of information instead of relying on her initial categorisation.

It has been said that the nature of hidden profile tasks, while effective in group research, might not exist in work groups in reality (Wittenbaum, et al., 2004). The concern arises out of whether the distribution of information that exists within a hidden profile replicates the distribution of information and knowledge within a group in an organisation (Wittenbaum, et al., 2004). This is a concern that requires future research within groups in organisations.

Research in real-world organisations would provide insight into how hierarchy and status impact the group interactions. These aspects were not looked at by the current study as the students revealed that they experienced no hierarchy within the groups. Contemporary organisations are transforming their heirarchical structures into flatter and decentralised structures that have teams and groups at the core (Jehn et al., 1999); perhaps the current study could shed some light on the group processes at play in these types of teams.

Traditionally, research done on information sharing using the hidden profile has been done with "…unacquainted undergraduate students … in small groups of three to six members" (Wittenbaum, et al., 2004, p.287). In this study the students' levels of familiarity with one another varied and were taken into account; the students used included both undergraduate and post-graduate students; and the group size remained constant at four people per group. Future research could potentially vary the number of participants per group to assess whether this impacts the group's performance as there is still great debate in the research about what the optimal size of groups actually is. Many of these propositions or arguments are not based on empirical findings but rather individuals' experiences of groups (Kozlowski & Bell, 2003). It seems likely that optimal group size is dependent on the nature and goals of the group as well as the environment in which the group operates (Kozlowski & Bell, 2003). Owing to the lack of consensus in the literature it appears that there is still a great deal of work to be done in this area.

A larger sample that is more ethnically diverse would be more appropriate and a better representation of the South African population. The diverse cultural and racial setting in which contemporary organisations exist impacts the way in which they operate. It seems likely that this setting will also impact group dynamics and information sharing. The current study, while somewhat diverse, could be more varied and therefore more representative of the South African context. Future studies could investigate this avenue of diversity in the sample.

After examining the findings of this study and previous research it is clear that the composition of the group is an important research area because different individuals within a group can affect the group processes and therefore the results of the group (Kozlowski & Bell, 2003). There is still a great deal of debate as to what group composition is ideal under what circumstances. The research and practical domains of the hidden profile do not offer any conclusive answers. For each study that suggests an optimal group composition, there is at least one opposing study that disconfirms those findings and offers an alternative suggestion. More research is needed in this area in the future.

While a great deal of research has been in the area of the effect of experts in a group, especially related to the concept of hidden profiles, the nature of the sample of the current study limited the findings in this specific area. The students did not view any of the other group members as having expert status and they all seemed to perceive themselves to be of equal expert status. It would be interesting to insert a person into each group in the role of an expert to examine the effects on the group interaction.

There have been studies that have discovered a relationship between collective group personality and the level of performance of the group (Jackson, 1992; Moreland & Levine, 1992, as cited in Kozlowski & Bell, 2003). While the present study investigated many elements of the group dynamics, the role of personality was not examined. There does not appear to be a great deal of literature that addresses the role of personality within the domain of hidden profiles. This is a potential area for future research.

There have been numerous studies that have examined the negative outcomes of conflicts that are unresolved or unmanaged within the group environment (Bettenhausen, 1991; Jehn, 1997; Pruitt & Rubin, 1986, as cited in Jehn, et al., 1999). The role of conflict within the group interactions was not within the scope of the current study. It would be interesting to investigate the role of conflict within the group interactions, especially in terms of the competitive environment.

Toma and Butera (2009) state that the difference between competitive and cooperative environments is important in the context of the hidden profile (Toma & Butera, 2009). Individuals' preferences for either a collaborative or a competitive environment were not taken into account in this study. Future research could examine the difference in behaviour and group dynamics under these two conditions. This could be done using the same groups and a different task under each of the conditions or the groups could be given the same task but allocated into either the cooperative or competitive environment. The results of this study would be beneficial for organisations, especially in terms of their performance management systems.

The extent to which the researcher's presence may have affected the groups' inetaractions is difficult to measure. Although the researcher attempted to mitigate these effects, it cannot be ruled out there would be some residual effects that may have influenced the group interactions in some manner.

In general, it seems that the current study has made a significant contribution to knowledge when considered within the context of the limitations that have been discussed above.

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Appendices

Appendix A: Breakdown of Sample

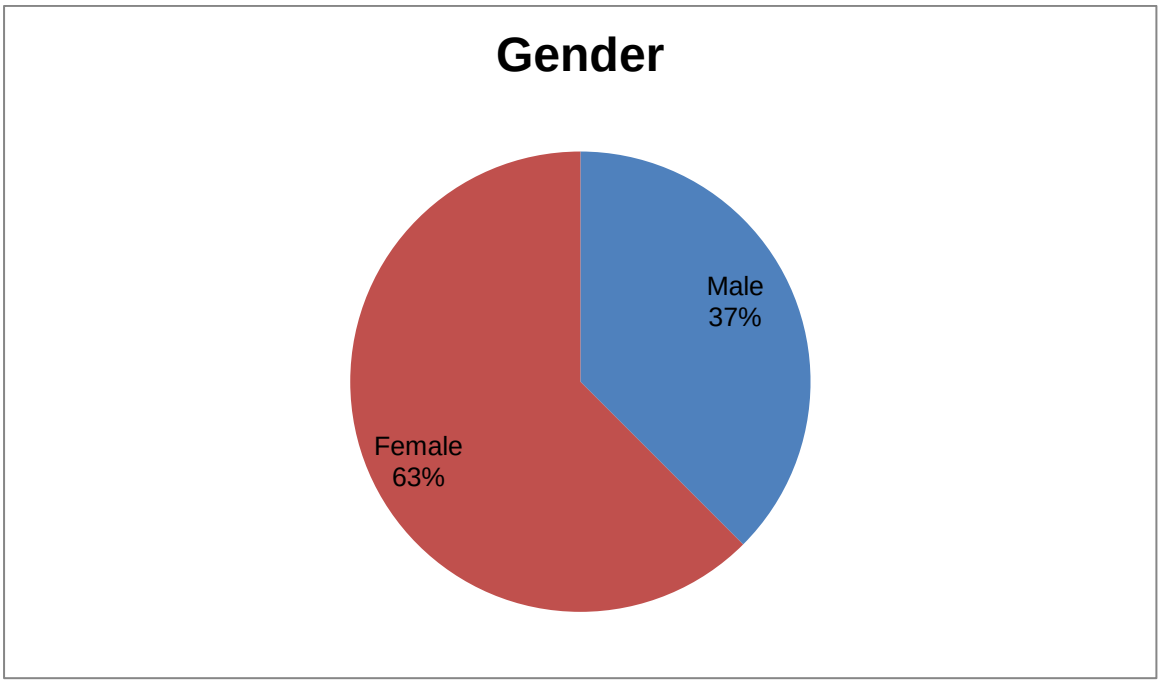


Figure 7: Percentage breakdown of gender in the sample

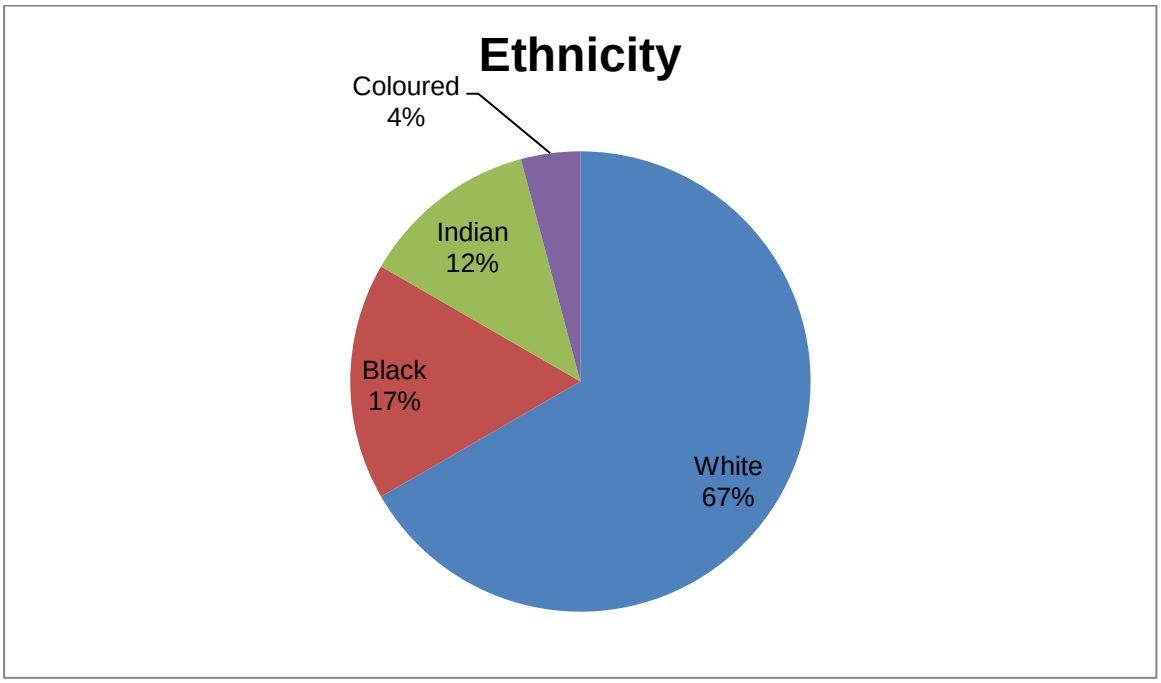


Figure 8: Percentage breakdown of ethnicity in the sample

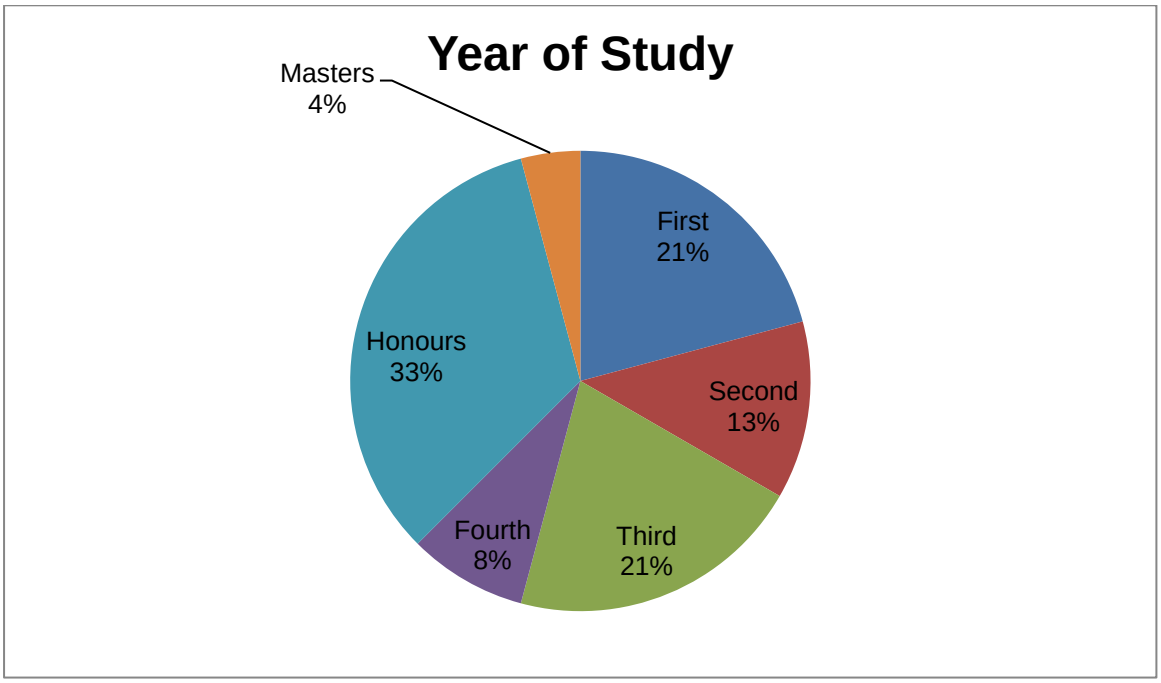


Figure 9: Percentage breakdown of year of study in the sample

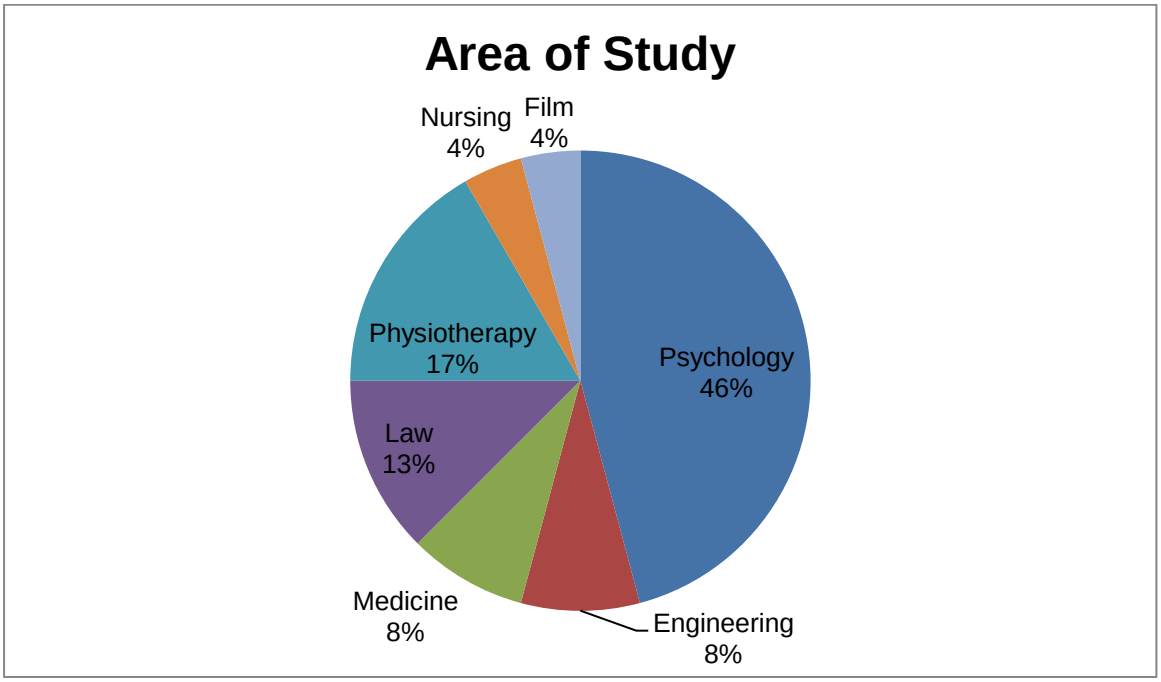


Figure 10: Percentage breakdown of area of study in the sample

Table 51: Summary of demographics of groups

Group number	Number of males	Number of females	Number of white students	Number of black students	Number of Indian students	Number of coloured students	Average level of group familiarity
One	2	2	2	2	0	0	12.25
Two	4	0	4	0	0	0	25.75
Three	2	2	3	1	0	0	14.5
Four	0	4	3	1	0	0	20
Five	0	4	1	0	2	1	23.5
Six	1	3	3	0	1	0	23

Appendix B: Cover letter - Informed Consent

Psychology
School of Human & Community Development
Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

Dear Student

My name is Bronwyn Jackson and I am conducting research for the purposes of obtaining a Masters Degree in Organisational Psychology at the University of the Witwatersrand. The research will focus on information sharing in self-directed work groups. The aim of the research is to investigate why and how people share information. I would like to invite you to participate in this study.

Participation in this research will involve interacting within a group of four members to develop a solution to a particular situation as well as completing a questionnaire after the task. It is estimated that this should take between 45 and 60 minutes to complete. With your permission this interaction will be video-recorded in order to ensure accuracy. This group meeting will be scheduled at a time that is convenient for you and will take place on campus in a private location.

Participation in this research is completely voluntary and you will not be advantaged or disadvantaged in any way for choosing to take part or not. There are no benefits to taking part in the study and it is not foreseen that participation in this study will be harmful in any way.

All of your responses will be kept confidential, and no information that could identify you will be included in the research report. The group interaction material (tapes and transcripts) will only be processed by myself and my supervisor. The materials will be stored in a secure location that only the researcher and supervisor will have

access to. Filling in and returning the contact form, as well as arriving for the discussion, will be considered consent to participate in the research.

As responses are confidential, analysis of the data will only be carried out on the results as a whole and therefore no individual feedback can be provided. The results will be written up in a full report and a summary of the results will be placed on the notice board outside U306C in the Department of Psychology and can also be provided on request.

If you choose to take part in the study, please complete the attached contact form as fully as possible and place it in either of the two boxes. One is located in the current lecture venue (for approximately 15 minutes after class) and another box is located in the Psychology Office, Room U211 in the Umthombo building on East Campus. The box is marked “Group Information Sharing”. If you choose not to participate, please discard this letter.

If you have any questions about the study please contact me on bronniej_16@yahoo.com. You may also contact my supervisor Nicky Israel at 011-717-4557 or Nicky.Israel@wits.ac.za.

Thank you for considering participating in this research.

Yours sincerely,

Bronwyn Jackson

Appendix C: Contact Form

First Name	
Cell phone number	
Email address	
Home phone number	

Please tick all of the timeslots below when you could potentially be available to meet.

Day	Morning 10-11am	Lunch 1:15-2:15pm	Afternoon 3-4pm
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Appendix D: Consent and Confidentiality Sheet

School of Human & Community Development

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

I _____ consent to participate in the research being undertaken by Bronwyn Jackson for her study on Information Sharing having read and understood all information provided in the cover letter.

I declare that:

a) I will not disclose the identity of anyone else in the group to anyone outside of the study.

b) I will treat all information that is discussed as confidential.

c) As pseudonyms will be used I understand that my identity will be kept confidential.

d) I give permission for the researcher to use direct quotations from my written questionnaires provided my identity is kept confidential.

e) I give permission for the researcher to use direct quotations from the video provided my identity is kept confidential.

Signed: _____

Date: _____

Appendix E: Consent Form – Video Recording





Psychology
School of Human & Community Development
Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

I _____ consent to my group discussion being video-recorded for Bronwyn Jackson's study on Information Sharing, I understand that:

- The video and transcripts will only be processed by the researcher and her supervisor.

- All video recordings will be stored in a secure location that only the researcher and supervisor have access to.

- No identifying information will be used in the transcripts or the research report and my identity will be kept confidential.

Signed: _____

Date: _____

Appendix F: Demographic Questionnaire

Group number: _____ **Colour:** _____

Please fill in the following information. Please note that these details are for statistical and analytic purposes only and are not intended to be offensive in any way.

Gender	
Age	
Race	
Area of study	
Year of study	

Please rate your familiarity with each person in your group (by colour identification). [Do not fill in the scale for your colour.]

Red

1	2	3	4	5	6	7	8	9	10
Never met				Acquaintance					Good friends/Family

Green

1	2	3	4	5	6	7	8	9	10
Never met				Acquaintance					Good friends/Family

Yellow

1	2	3	4	5	6	7	8	9	10
Never met				Acquaintance					Good friends/Family

Blue

1	2	3	4	5	6	7	8	9	10
Never met				Acquaintance					Good friends/Family

Individual decision for task (please fill in the name of the candidate you would hire from your most preferred choice to your least preferred choice):

1._____

2._____

3._____

4._____

Appendix G: Task (Information sheet)

Group Task

Colour: Red/Green/Blue/Yellow

Instructions:

1. The task is to read the information sheet individually and first write down your individual decision and then reach a decision regarding the scenario as a group.
2. Please do not read the information sheet aloud to the group.
3. Please do not show the information sheet to other group members.
4. You may discuss all information given in the information sheet with the group.

You are a member on the recruitment and selection panel. Below is the advertisement that your company placed in the paper. The advertisement is for a job opening as project manager. There were numerous applications and only four applicants made the short-list. Each applicant was interviewed by someone different and their notes, along with the applicants' profiles, have been provided to each member of the panel. You are now sitting as a panel to make the final suggestions to senior management on who would be best suited for the position of Project Manager. Your task is to decide (as a group) a ranking order of the four applicants – 1 being the most preferred choice and 4 being the least preferred choice. You will have at most 25 minutes to reach a decision on the ranking order of the applicants so that a presentation can be compiled for a meeting later today with senior management. The group discussion will be observed by senior management and the member of the panel that contributes the most towards reaching the final decision will be given a promotion. Unfortunately there is only one job promotion available at this point in time.

CAREER OPPORTUNITY

The company is expanding its business locally and globally. We are in need of an experienced and enthusiastic project manager to guide our newest software project from conceptualisation to completion.

Position: PROJECT MANAGER
Job Location: Johannesburg, South Africa (primarily)

Key responsibilities:

- Assist and guide the client throughout the development and implementation phases of the project.
- Manage and lead their assigned team to successful completion the project.
- Effective communication and liaison between client, team and company executive.
- Manage all associated risks of the project.
- Submit relevant documents for the budget, and manage finances of the project.
- Responsibility and authority over all aspects of the project.

Requirements:

- Relevant university degree.
- At least 5 years experience (post university).
- Experience as a project leader is advantageous.
- Age: 27-45 years of age (as job is often physically demanding)
- Drivers licence is essential
- Extensive background in software development

Personal Attributes:

- Excellent leadership skills
- Keen business sense (budget and financial issues)
- Good time management skills
- Good communication skills (English essential, additional languages would be advantageous)
- Adequate conflict resolution skills

Interested candidates should email their complete CV and accompanying documents (copy of degree, references etc) to applications@project.co.za.

Applicant A:

Name:	Rajesh Naidoo
Age:	32
Gender:	Male
Highest qualification:	Diploma in project management from a technikon.
Work Experience:	Worked in the field for over 10 years, 4 of those years were as a leader of project management teams
Personal details:	Married, 3 children.
Recommendations:	Yes. Supplied to the company. Two excellent. One average.
Hobbies:	Golf and go-carting
Additional information:	All: Rajesh is known to have good communication skills in the workplace. All: He is always 10 minutes early for meetings. All: Rajesh enjoys taking full responsibility for task outcomes. Red: There is an alleged sexual harassment incident reported by a female colleague. Red: Rajesh is a motivated and driven employee. Red: He likes meetings to be structured and minutes to be sent out within 24 hours. Yellow: Rajesh has been so successful that he has been head-hunted numerous times to work on specific projects. Yellow: He likes to take credit for work, even when it is not his own. Yellow: Rajesh owns a holiday house in the south of France. Green and blue: no additional information provided.

Applicant B:

Name:	Isabelle McIntosh
Age:	28
Gender:	Female
Highest qualification:	Honours degree cum laude (with distinction) from the top university in the country.
Work Experience:	She has spent the last 6 years working at a non-profit organisation managing the fundraising schemes for various charities. She has led this team with great success.
Personal details:	Married, no children.
Recommendations:	Yes. Supplied to the company. One excellent. One good.
Hobbies:	Painting, reading and sewing.
Additional information:	All: Isabelle is described as having good leadership ability. All: She has a lot of experience in book-keeping and managing. All: Her time management skills are excellent. Blue: She is extremely charismatic and uses this skill to ensure she is successful in all tasks. Blue: She is currently pregnant with her first child. Blue: Isabelle is a talented project manager who will do whatever it takes to get the job done. Green: Isabelle plans to study her MBA at some stage. Green: She is an excellent mediator and speaks four languages – English, Afrikaans, French and Zulu. Green: Isabelle is a perfectionist and demands perfection from the team that she leads. Red and yellow: No additional information provided.

Applicant C:

Name:	Sibu Thobejane
Age:	35
Gender:	Male
Highest qualification:	Undergraduate university degree as well as several diplomas and certificates.
Work Experience:	He has worked at 5 different companies gaining as much experience as possible.
Personal details:	Unmarried. No children.
Recommendations:	One provided. Good.
Hobbies:	Writing, soccer and canoeing.
Additional information:	All: Sibu works very well in groups. All: His financial knowledge is sound and his financial management is excellent. All: Sibu is an extrovert by nature. Red: Sibu is well liked by his colleagues and is always the centre of attention. Red: His management style is unique and elicits the required responses from his team. Red: Sibu enjoys alcohol after work. Blue: He does not enjoy working on or with technology. Blue: Sibu has had a profound impact at the companies at which he has worked. Blue: Sibu is an award winning journalist. Yellow and Green: no additional information provided.

Applicant D:

Name:	Johann Hennings
Age:	43
Gender:	Male
Highest qualification:	Johann has no formal training.
Work Experience:	He has over 25 years of experience in the field (experience as group member and leader).
Personal details:	Not married. No children. (Supports his mother financially)
Recommendations:	Yes. Supplied to the company. Two excellent. Two good. One average.
Hobbies:	Computers, fishing and bird-watching
Additional information:	All: Johann is a people-person who leads his teams with passion and integrity. All: His knowledge on software is excellent and he keeps it up-to-date. All: Johann's driver's licence needs to be renewed. Yellow: Johann has worked his way up the corporate ladder from a simple after school job to becoming the project manager on several lead projects. All this time, he has remained at his current company out of loyalty. The company are in a strong position but Johann feels that he is now ready for a new challenge and would welcome a position at a different company. Yellow:He is a hard worker who dedicates his time exclusively to work. Yellow: He can get side tracked by the software advancements and forget about the actual task at points. Green: His gout may cause him to be absent a day or two a month at most. Green: Johann is a computer and technology fanatic in his free time. Green: Johann has an infectious laugh. Red and Blue: no additional information provided.

Appendix H: Observation Rubric

1. **Type of Information Shared**

	Shared	Unshared
Positive		
Negative		

Frequency counts. Four of these blocks, one per colour.

2. **Talking turn-Sharing**

	Red	Blue	Yellow	Green
Number of talking turns				

Frequency counts.

3. **Leadership Approach**

Devil's Advocacy	Consensus	Dialectical Inquiry

4. **Roles of group members**

Did a leader emerge?	yes	no
Was there resistance towards the leader?	yes	no
Did the group accept the leader?	yes	no
Did more than one leader emerge?	yes	no
Did other group members play an active role?	yes	no
Did other group members play a passive role?	yes	no

Additional observations and explanations to be included for each of these

5. Structure of discussion

Did the group set out a plan at the start?	yes	no	Comment:
Did the group designate time for each member to talk?(ie: allow everyone to have a turn initially)	yes	no	Comment:
Did the group struggle to begin the initial discussion?	yes	no	Comment:
Did the group reach a decision ahead of the time limit?	yes	no	Comment:
Did the group talk over each other? (talk at once)	yes	no	Comment:
Was one viewpoint favoured initially and made to be the decision at the end?	yes	no	Comment:
Was one viewpoint favoured initially and NOT made to be the decision at the end?	yes	no	Comment:
Did the group debate the unshared information?	yes	no	Comment:
Was all the unshared information discussed?	yes	no	Comment:
Did the unshared information affect the group's decision?	yes	no	Comment:

6. **Expertise**

Was expertise of any member of the group discussed?	Yes	No

7. **Final Decision**

What was the group's final ranking?

1.
2.
3.
4.

8. **Researcher views on consensus (of decision)**

9. **Additional Field Notes**

(Open-ended observations about the process).

Appendix I: Post Task Questionnaire

Group number: _____ Colour:_____

Please answer the following questions as fully and honestly as possible.

How would you describe the process that the group used to make the final decision?

Were you satisfied with the group decision? Yes No

Please explain:

What information did you feel was the most important to share?

Please explain:

What motivated you to share information (if at all)?

Did you withhold any information? Yes No

Please explain:

Were you satisfied with the interaction of the group? Yes No

Please explain:

Were you satisfied with the group members' contributions to the group?

Yes No

Please explain for each colour (including your own colour).

Red:

Green:

Blue:

Yellow:

Generally:

Do you think a leader emerged? Yes No

Please explain:

Is there any other information that you would like to share about the group task?

Appendix J: Ethics Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (SCHOOL OF HUMAN & COMMUNITY DEVELOPMENT

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: MORG/11/004 IH**
PROJECT TITLE:	Information Sharing in Self-Directed Work Groups in a Competitive Environment
INVESTIGATORS	Jackson Bronwyn
DEPARTMENT	Psychology
DATE CONSIDERED	15/05/11
DECISION OF COMMITTEE*	Approved

This ethical clearance is valid for 2 years and may be renewed upon application

DATE: 07 July 2011

CHAIRPERSON _____
(Professor M. Lucas)

cc Supervisor: Nicky Israel
Psychology

DECLARATION OF INVESTIGATOR (S)

To be completed in duplicate and **one copy** returned to the Secretary, Room 100015, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure, as approved, I/we undertake to submit a revised protocol to the Committee.

This ethical clearance will expire on 31 December 2013

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix K: Summary of considerations in response to methodological and interpretive rigour criteria

Table 52: Summary of considerations in response to methodological rigour criteria

Criteria for methodological rigour	Considerations
Congruence	▪ The research design and methodology fits the subject matter of the study. ▪ The study has been conducted in a manner that is congruent with the chosen methodology
Responsiveness to social context	▪ The research design was developed to be appropriate for the context in which it was conducted. ▪ The researcher is a part of the social context in which the study was conducted (student at the University) and therefore has an understanding of the context and did not need to engage with participants about this aspect.
Appropriateness	▪ The sampling strategy was suitable and identified participants that could assist in the answering of the research questions. These participants were divided into groups of four members each. ▪ Appropriate data gathering methods were used (video footage, demographic questionnaire and post-task questionnaire) that could inform the research questions.
Adequacy	▪ Sufficient sources of information have been utilised in order to develop a full description of the issue being studied. The post-task questionnaire was extremely helpful in this regard. ▪ A detailed description of the sample, the task, the methods, the data gathering and the data analysis processes have been provided. ▪ Multiple sources of information were utilised in the analysis: video footage, observations and questionnaires. ▪ The methods of gathering and recording data were sensitive to participants' language, views and disabilities. The University holds its classes in English and so it is assumed that all students have at least a basic understanding of the language. The participants' views were the focus of the study and so variation was not only allowed, but appreciated. The needs of a visually impaired individual were met. ▪ Corroborating, illuminating and rival accounts were gathered to explore multiple aspects of the issues being researched.
Transparency	▪ The process of data gathering and analysis were performed in the most transparent way possible. The participants were clear on the purposes of the task and that they would be video recorded. ▪ The rival and competing accounts were incorporated into the analysis and they shed light on factors that are of interest to the study.

(taken from Fossey et al., 2002, p.724).

Table 53: Summary of considerations in response to interpretive rigour criteria

Criteria for interpretive rigour	Considerations
Authenticity	▪ The participants' voices are presented through direct quotations from the video and the questionnaires. ▪ A range of views are presented including opposing views and opinions. ▪ The descriptions and interpretations incorporate sufficient information to allow for the interaction to be recognised by those involved in the group interaction. ▪ The participants were not involved in the analysis of the data but they were involved in a post-task questionnaire that asked their opinions on various aspects of the interaction.
Coherence	▪ The links between the data and the findings are plausible. ▪ Most of the data is taken into account in the findings. ▪ Corroborating and competing elements have been considered within each of the groups and across the groups.
Reciprocity	▪ The interpretations and analysis were not shared with the participants, but the participants were asked to share their views and opinions on the group interaction in the post-task questionnaire.
Typicality	▪ The study employed an ideographic approach which looks at individual and unique findings that contribute to the field, but do not necessarily need to be generalisable to contribute to knowledge (Larsson, 2009).
Permeability of the researcher's intentions, engagement, interpretations	▪ The researcher's role is as transparent as possible in the interpretative process. ▪ The study did change the researcher's initial understanding of the issues being studied. ▪ The researcher used a journal to minimise the extent to which her values, preconceptions and preferred theories influenced the report. ▪ The researcher's personal experience during the research process is made explicit at relevant points in the report.

(taken from Fossey et al., 2002, p.725).

Appendix L: Ranking of Decisions

Table 54: Ranking of decisions – individual and group for Group 1

Rank	Red	Yellow	Blue	Green	Group
1	Sibu	Isabelle	Rajesh	Rajesh	Sibu
2	Isabelle	Rajesh	Sibu	Sibu	Rajesh
3	Rajesh	Sibu	Johann	Isabelle	Isabelle
4	Johann	Johann	Isabelle	Johann	Johann

Table 55: Ranking of decisions – individual and group for Group 2

Rank	Red	Yellow	Blue	Green	Group
1	Johann	Rajesh	Johann	Isabelle	Rajesh
2	Rajesh	Johann	Sibu	Johann	Johann
3	Isabelle	Sibu	Rajesh	Rajesh	Isabelle
4	Sibu	Isabelle	Isabelle	Sibu	Sibu

Table 56: Ranking of decisions – individual and group for Group 3

Rank	Red	Yellow	Blue	Green	Group
1	Isabelle	Isabelle	Isabelle	Isabelle	Isabelle
2	Johann	Rajesh	Sibu	Rajesh	Sibu
3	Sibu	Sibu	Rajesh	Sibu	Johann
4	Rajesh	Johann	Johann	Johann	Rajesh

Table 57: Ranking of decisions – individual and group for Group 4

Rank	Red	Yellow	Blue	Green	Group
1	Rajesh	Sibu	Rajesh	Isabelle	Rajesh
2	Johann	Isabelle	Johann	Rajesh	Johann
3	Isabelle	Rajesh	Isabelle	Sibu	Isabelle
4	Sibu	Johann	Sibu	Johann	Sibu

Table 58: Ranking of decisions – individual and group for Group 5

Rank	Red	Yellow	Blue	Green	Group
1	Isabelle	Isabelle	Sibu	Isabelle	Isabelle
2	Rajesh	Johann	Rajesh	Sibu	Rajesh
3	Johann	Sibu	Isabelle	Rajesh	Johann
4	Sibu	Rajesh	Johann	Johann	Sibu

Table 59: Ranking of decisions – individual and group for Group 6

Rank	Red	Yellow	Blue	Green	Group
1	Rajesh	Isabelle	Rajesh	Rajesh	Rajesh
2	Isabelle	Sibu	Isabelle	Sibu	Isabelle
3	Johann	Rajesh	Johann	Isabelle	Johann
4	Sibu	Johann	Sibu	Johann	Sibu