UNIVERSITY OF SOUTHAMPTON

FACULTY OF MEDICINE, HEALTH, AND LIFE SCIENCES

School of Psychology

The Acquisition of New Members by Groups: The Role of Selection, Socialisation, and Sanctions

by

Christopher Stiff

Thesis for the degree of Doctor of Philosophy
January 2005

UNIVERSITY OF SOUTHAMPTON

ABSTRACT

FACULTY OF MEDICINE, HEALTH, AND LIFE SCIENCES

SCHOOL OF PSYCHOLOGY

Doctor of Philosophy

THE ACQUISITION OF NEW MEMBERS BY GROUPS: THE ROLE OF SELECTION, SOCIALISATION, AND SANCTIONS

by Christopher Stiff

Human society is built on a foundation of collaborative endeavours which range from small social groups to multi-national organisations to governments. In order to sustain these systems, many groups will often be required to recruit new members; either to compensate for the loss of exiting members or to allow the group to expand. However, this process is hampered by the fact that new members may compromise the integrity of the system by following their own individual interests rather than those of the group. The aim of this research was to examine how open groups resolve this problem, and acquire new members who will contribute towards collective goals rather than exploit other members for their own ends.

To do this, we draw on previous research from the area of *social dilemmas* - which shows how cooperation can be elicited from those engaged in a mixed motive situation - and models which view groups as open systems - such as the *Group Socialisation model* (Moreland & Levine, 1982) - to produce three mechanisms which may facilitate member recruitment by groups: group selection, group socialisation, and group resocialisation via sanctioning. Four empirical studies were then carried out to ascertain the relative effectiveness of these mechanisms in securing candidates for membership a place within a group's ranks.

In Experiments 1 (Chapter 3) and 2 (Chapter 4), participants made membership decisions based on selection information in the form of a candidate's *commitment* to the group, and the presence of a sanctioning system which would penalise free-riders. In Experiments 3 (Chapter 5) and 4 (Chapter 6), the idea of source variance was introduced to examine whether the origin of commitment information would affect its use. Experiment 3 also examined to what extent the presence of socialisation could affect existing members' decisions regarding the candidate.

The analysis of these experiments indicates that commitment information is a powerful cue in the recruitment decisions about new members. The presence of a socialisation mechanism was also found to be influential in the recruitment process in that the commitment of candidates mattered less when there was an opportunity to train them. However, the presence of a sanctioning system had no influence on membership decisions. These findings are subsequently discussed in terms of their impact on our understanding of group dynamics, and recommendations are made for future research, which may seek to expand on the ideas outlined here in order to build a greater understand of human cooperation.

TABLE OF CONTENTS

ABSTRACT ii

TABLE OF CONTENTS iii

TABLES AND FIGURES v

DECLARATION OF AUTHORSHIP viii

ACKNOWLEDGMENTS ix

CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW 1

Studying Group Dynamics 1

Interactions Amongst Group Members 5

Mixed Motive Situations: Prisoner's Dilemmas and Social Dilemmas 10

The Selection of New Members and the Importance of Commitment 22

Socialisation in Groups: Definitions and Concepts 25

Resocialisation and the Use of Sanctions in Maintaining Cooperation 28

The Present Research 33

CHAPTER TWO: METHODOLOGY AND EXPERIMENTAL PARADIGM. 37

CHAPTER THREE: SECURED COMMITMENT AND RESOCIALISATION IN MEMBER ACQUISITION 47

Introduction 47

Method 50

Results 53

Conclusions 55

CHAPTER FOUR: UNSECURED COMMITMENT AND RESOCIALISATION IN MEMBER ACQUISITION 58

Introduction 58

Method 60

Results and Discussion 61

General Discussion for Secured and Unsecured Commitment 64

CHAPTER FIVE: REPUTATIONS AND SOCIALISATION IN THE ACQUISITION OF NEW MEMBERS 67

Introduction 67

Method 73

Results 77

Discussion 84

CHAPTER SIX: OTHER SOURCES OF COMMITMENT INFORMATION AND THEIR INFLUENCE ON REPUTATIONS **88**
Introduction *88*
Method *90*
Results *93*
General Discussion of Experiments 3 and 4 .... *96*

CHAPTER SEVEN: GENERAL DISCUSSION **101**
Selection and the Use of Commitment in Member Acquisition *105*
Relational Group Artefacts: the Use of Socialisation *109*
The Use and Effectiveness of Sanctions as Resocialisation *115*
Integrating Experimental Findings into Existing Research *121*
Suggestions for Future Research *127*
Final Conclusions *132*

REFERENCES **134**

TABLES AND FIGURES

Figure 1
Example of a Prisoner's Dilemma matrix................................... 10

Figure 2
Standard display for experimental trail....................................... 40

Figure 3
Display for correctly answered trial.. 41

Figure 4
Display for an incorrectly answered trial...................................... 41

Figure 5
Display for time expiration.. 42

Figure 6
Incorrect practice trial... 43

Figure 7
Progress screen at the end of a successful block.............................. 44

Figure 8
Progress screen at the end of an unsuccessful block.......................... 44

Figure 9
Voting system for admitting new members.................................. 45

Table 1
Rates of admittance for candidates according to commitment level and presence or absence of a sanctioning system................................ 54

Table 2
Linear regression analysis using IV (commitment level), mediator (trust level) and DV (entry decision) 55

Table 3
Rates of admittance for candidates according to commitment level and presence or absence of a sanctioning system.................................. 62

Table 4
Linear regression analysis using IV (commitment level), mediator (trust level) and DV (entry decision) 63

Table 5
Differences in perceived commitment of candidate depending on source of information.. 78

Table 6
Differences in perceived commitment of candidate depending on presence of socialisation and source. 78

Table 7
Differences in perceived commitment of candidate depending on presence of socialisation and commitment level (experimenter as source only).. 79

Table 8
Differences in perceived commitment of candidate depending on presence of socialisation and commitment level (candidate as source only)........... 79

Table 9
Admittance of candidates to group by condition (experimenter as source)... 86

Table 10
Admittance of candidates to group by condition (candidate as source)...... 80

Table 11
Commitment level and information source on rates of candidate admittance. 81

Table 12
Mean feelings of trust towards candidates depending on source and presence or absence of socialisation.. 82

Table 13
Feelings of trust towards candidate according to commitment level and presence/absence of socialisation (experimenter as source)................... 83

Table 14
Feelings of trust towards candidate according to commitment level and presence/absence of socialisation (candidate as source)...................... 83

Table 15
Perceptions of candidate commitment according to commitment and source conditions. 93

Table 16
Admittance rates for candidates according to commitment level and source of information... 94

Table 17
Mean trust towards the candidate against commitment level and source of information.. 95

Table 18
Participants' ratings for the reliability of reputational information.......... 96

Table 19
Participants' ratings for the trustworthiness of reputation source............ 96

ACKNOWLEDGMENTS

Writing this work has required an awful lot of help and understanding from those around me, and I am very thankful for all the support they have given me over the last three years. Particularly, I am massively grateful for all assistance given to me by my supervisor Mark Van Vugt whose input both professionally and personally has been the bedrock of this thesis. A special thanks also to Constantine Sedikides, my advisor, who has always been a fountain of knowledge and wisdom, and a huge thank you to the Economic and Social Research Council who have funded my thesis and made all of this possible.

Thanks too to all the other people in the CRSI and the Psychology School office who have made the whole process relatively painless! A special mention should also go to all the professors and students at the Hokkaido University who put up with me for a month. As well as giving a useful insight into the cross-cultural comparisons in group dynamics, they also introduced me to hitherto unknown culinary delights during my stay which I'm sure will stay with me forever.

I couldn't have finished this work without all the support I received from my friends both in Southampton and back in my home town of Kidlington, so a big thank you to all of them. A special thanks also to my flatmates Theresa White and David Shute who have endured countless diatribes regarding my work over the last three years. I have no doubt they will never forget what a social dilemma is – even if by now they really, really want to!

At work, my office mates during my time in the department have been a limitless supply of humour and help so thank you to Katie Hendon, Chantal Powell, Bethan Hatherall, and all the people at Chamberlain road. A special mention must go to Claire Hart, who has put up with all kinds of nonsense from me over the last three years, and still managed to retain her sanity.

I could never have finished my thesis without all the love and support from my girlfriend Paula Kennedy who has had to endure all the trials and tribulations that I have throughout my thesis. She has always been there, whether it be to cope with a rant or to celebrate a success, and I am eternally grateful to her for everything.

Finally, I'd like to offer a massive thank you to my sister Nina, my Aunt Sue, and my Mum, Jane. They have given me so much over the last three years, and have always shown nothing but encouragement, kindness, and generosity however much I may have given them cause not to! I couldn't have come this far without them, and I hope I have made them proud.

CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

Studying Group Dynamics

Human beings are strongly social animals. Anthropological scholars (e.g. Lewin, 1989) and evolutionary psychologists alike (e.g. Buss, 1990) have often argued that prehistoric human society consisted of tribes of individuals who interacted and cooperated with each other in groups to achieve common goals. In the modern day, we are members of an enormous amount of groups throughout our lives and rely on others for assistance, information, and feelings of emotional well-being (Baumeister & Leary, 1995). Human society too is replete with examples of large scale social collaborative endeavours which encompass the ways in which our economy, employment, and laws operate to maintain order (Van Vugt, Snyder, Tyler, & Biel, 2000).

A question that arises from our observations of everyday life is: how is such cooperation possible? In order for individuals to engage in long term social exchanges in groups, groups must have the capacity to recruit new members and replace exiting members. For organisations to sustain themselves, they must be able to replace those employees who leave the workplace. Similarly, for a small group of individuals to grow into a large human settlement (such as a town or city), its citizens must be able to acquire newcomers in order to flourish. Ultimately then, to explain a great deal of human cooperative tendencies, we must view groups as *open, self-organising systems that are able to sustain themselves over time* (Arrow, McGrath, & Berdahl, 2000; McGrath, 1991; Ziller, 1976). The main aim of this research is to explore this idea, and examine the ways in which groups come to acquire new members and the levels of performance and cooperation required to achieve group goals.

Working with others and the formation of groups

To begin with, let us consider why humans work together at all. A basic definition of a group is two or more people who interact and are interdependent in the sense that their needs and goals cause them to influence each other (Cartwright & Zander, 1968). The primary reason for working with others then is that it allows us access to resources, knowledge, and assistance in order to achieve goals that we could not achieve alone. These goals may be a simple matter of physical labour; for example, it

usually requires more than one person to successfully push-start a stalled car. They may also be of a more emotional-nature; for example, the need for affiliation and feelings of social "belongingness" can only be accomplished when in the midst of other individuals.

According to Worchel (1996), the feeling of discontent that comes from the inability to achieve a goal alone is the first in a number of iterative processes which lead to the formation of a group. From this, a precipitating event is usually the impetus for a collection of individuals to form an alliance with the aim of resolving their dissatisfaction. For example, several disparate individuals may feel disgruntled at the lack of a drinks machine in their place of work. This state of affairs may continue indefinitely, and it may only be because of a critical occurrence – for example, a particularly hot day leading to unpleasant feelings of thirst – that these individuals feel inspired to work together and campaign their superiors for a vending machine. Once a collection of individuals comes together, a great deal of activity occurs whilst members resolve the technicalities of the group; these may include setting the divisions between member and non-member, establishing a social identity, and deciding upon any hierarchical system that may be instigated (e.g. the use of leaders). Finally, when these issues have been dealt with to a sufficient degree, the group may then begin to be productive and enact behaviour in pursuit of its goals. A similar - and more prosaic - outline of group formation is given by Tuckman and Jensen (1977) who describe the process as involving "forming" (the coming together of individuals), "storming" (an intense period of interaction wherein the specifications of the group are decided upon), "norming" (the end result of this interaction), and finally "performing" (the enacting of behaviour for the accomplishment of group goals).

The structure of small groups and the interaction between members

Once formed, we can also describe the basic elements constituting most groups. Levine and Moreland (1990) have postulated that a key component of a group is its internal *status system(s)* which designate the pattern of influence group members have over one another. These systems may vary in formality depending on the nature of group; for example, work organisations tend to have rigid hierarchical structures whereas social groups usually do not explicitly express status relations. Groups also usually possess *social norms;* shared expectancies of behaviours and/or beliefs that

are appropriate to group members. The acquisition of norms in a group is often necessary for a group to operate to optimum efficiency and a may require a certain amount of disagreement and debate amongst group members during their formation stages. Norms described by a group will most likely display some overlap with wider societal norms (for example, norms regarding courtesy to other individuals are common to small groups and society in general). However, groups may also have idiosyncratic norms which may be contradictory to the expectancies of society; for example *Mafioso* members have their own (strongly enforced) codes of conduct which often run counter to those outside the organisation. Levine and Moreland (1990) also report the importance of *social roles* within a group which are expectancies regarding the behaviour of specific individuals in the group. For example, it is acceptable for an individual occupying the role of "leader" to direct and order others within the group, behaviour which may not be appropriate for an individual who does not occupy this role.

When considering those individuals who are actively participating in a group, Arrow and McGrath (1995) have made the distinction between *standing* and *acting* groups. The former here relates to those individuals who are explicitly part of the group and posses acknowledged relations with other members. The latter refers to those individuals who are actually *contributing* towards the system at any time and may not necessarily be all of the standing group. For example, a football team usually contains around 15 players; this is the team's standing group. However, only 11 are ever on the pitch at any one time as the team's acting group.

Arrow and McGrath (1995) have also offered some classifications for different *types* of group. Firstly, they highlight *task forces* as groups which form with a highly specific purpose or goal. Typically, when this goal is completed the group disbands. Individuals participating in task forces may often have other responsibilities outside of it in the embedding organisation. For example, a task force may consist of an IT expert, a managerial figure, and an administrative assistant from the same company who each have their own responsibilities and roles outside of the task-force in their own departments. These individuals then coalesce to work on a particular project, and go about their separate ways when it is completed. It is even possible for task-forces to comprise of members from completely different organisations; witness the use of "think-tanks" in many governmental consultations which involve the use of experts from widespread, unrelated locales.

A second group type indicated by Arrow and McGrath (1995) is the *team*. Teams comprise of individual who have specific skills who undertake projects as and when they arise. This differs from task-forces in that when the project is completed, the team remains the same structurally and simply awaits the next project. Such groups are commonplace in most organisations which have specific departments with fixed personnel continually dealing with projects and tasks. Finally, Arrow and McGrath delineate certain groups as *crews*. These are collections of individuals that possess task-specific abilities and roles that are brought together to work on a project. Whilst the combination of role types within a crew usually remains the same from instance to instance, the individual members *within* the crew are not necessarily identical. For example, cabin crews within aeroplanes will usually comprise of a pilot, co-pilot and steward(s) in all cases. However, the actual individuals that are in this crew may differ from flight to flight.

New members and the difficulty of newcomer acquisition

So far then we have considered the reasons for group formation, the antecedents behind their formation, and various defining characteristics of groups' internal structures. We have also outlined some simple classifications that can be used to describe members within groups and the different groups that may exist. The conclusion that may be drawn from this section is that human cooperation is highly advantageous and offers a huge range of benefits for those engaged in it. Why then is the acquisition of new members to open, dynamic groups worthy of study? The answer is that cooperation within groups is extremely fragile, and susceptible to many kinds of sabotage, exploitation, and malfunction. Cooperation amongst collections of individuals does not necessarily arise on every occasion, and there may be many situations in which collaborative endeavours may falter and even fail due to the machinations of those within the group. In the following section, we examine some of the vast body of psychological research that has sought to investigate in detail the use of cooperation in interactions, and how the findings here may impinge on our understanding of groups and group behaviour.

Interactions Amongst Group Members

Evolution and cooperation

The human tendency to cooperate is actually somewhat contradictory to the theory of evolution which states that organisms exist in competition with one another, and by entering into collaborative endeavours with others we are increasing *their* chances of reproductive success. Initial explanations for this considered the idea of *inclusive fitness* (Hamilton, 1964) which reports how organisms may assist genetic relatives as this ensures the survival of their genes by proxy. Consideration has also been given to how cooperation can exist between individuals who share no genetic material and are unrelated which cannot be explained by inclusive fitness alone. Here, researchers considered the idea of *reciprocity* (Axelrod & Hamilton, 1981; Trivers, 1971) which assumes that it *is* in an individual's fitness to help another if that other will return the assistance in the future. Thus, although in the short-term an individual may be increasing a "rival's" chances of reproductive success, they are in fact investing in their own future to ensure that they can maintain their own level of fitness.

In a more complex society – for example, in higher primates such as gorillas - individuals are not limited to simple dyadic pairings with a single unchanging partner, but may enter into collaborations with many different individuals within their partner pool. In order for this to occur, it has been postulated by Cosmides and Tooby (1992) that we and other primates may have evolved several cognitive capacities in order to keep track of multiple interactions. So, in order to engage in several dyadic pairings, an organism must be capable of recognising many different individuals, remembering previous interactions with those individuals, to communicate their desires and understand others' communications of their desires, and to represent costs and benefits outside of the immediate items being exchanged. By utilising these capacities, an organism can keep track of conspecifics they have interacted with and can expect assistance from if needed.

Despite the apparent benefits of cooperative endeavours, a common finding in psychological research is that the productivity and performance of a group is less than what might be expected given extrapolation from the outputs of a single person (e.g. Harkins, 1987). This suggests that in some groups, problems may be apparent which hinder the attainment of goals. What then are some of the reasons behind the group *dysfunction*?

Productivity losses in groups – coordination and motivational problems

A common cause of sub-optimal productivity in groups is due to a confusion of inputs known as *coordination loss,* wherein individuals working together fail to integrate their individual contributions efficiently. For example, in a tug-o-war team, rather than pulling at the same time each rope-puller may pull at random intervals leading to a lower level of performance compared with if their efforts are better organised. Individuals engaged in a *disjunctive* task may also experience a coordination loss known as *production blocking* (Nijstad, Stroebe, & Lodewijkx, 2003). These tasks require those engaged to draw a correct response from a pool of ideas; for example, *brainstorming* to derive a course of action is a common disjunctive task. Production blocking occurs when useful solutions are lost as an individual waits their turn to articulate their ideas.

A more interesting aspect of sub-optimal group performance is the presence of *motivation losses* amongst members. This is commonly expressed in the phenomenon of *social loafing*; "an inverse relationship between group size and member motivation" (Kerr, 1983, pg 819). So, rather than being due to a problem in coordinating individuals' contributions, the presence of others seems to cause a reduction in *effort* from those engaged in a task.

A key aspect in the occurrence of social loafing appears to be a lack of *evaluation apprehension.* Several researchers examining *social facilitation* – the *increase* of effort due to the presence of others – report that it is often the concern of what others will think of us that motivates us in a task (e.g. Blascovich, Mendes, Hunter, & Salomon, 1999; Bond, Atoum, & Van Leeuwen, 1996). When this concern is removed, contributions tend to drop. Comer (1995) too has cited this lack of evaluation as an important component of social loafing as it means individuals cannot be rewarded for their efforts, nor can they be castigated for lack of contributions. This particular work also goes on to describe several other reasons behind social loafing. Firstly, the perceived dispensability of one's contribution can cause a reduction in effort. That is, if an individual believes that the group will succeed without their contributions, then there is no need to exert oneself unnecessarily. Secondly, the efficacy of the group's efforts can affect contributions; if an individual believes the group will not succeed even *with* their contribution, they will not exert themselves fully as this will be perceived as "wasted effort". Thirdly, perceived

loafing by *other* members will also reduce effort as individuals are loathe to carry others who should be contributing but are not. Interestingly, this effect seems to hinge on an individual's perceptions of the other's capability. Kerr (1983) has found that if participants were paired with others who were of low-ability, effort was *not* withheld. Paring with capable but non-contributing others did result in social loafing however, supporting the idea that individuals are unwilling to be "suckers" in group tasks (see also Schnake, 1991). Finally, Comer reports how individuals are likely to withhold effort if the task is uninteresting.

The *type* of task that a group is undertaking can also affect individuals' motivation to contribute. Kerr and Bruun (1982) compared motivation losses in individuals engaged in a disjunctive versus conjunctive tasks; the latter being a situation where each group member is required to complete the group task in order to finish, such as a relay race. In disjunctive tasks, the group performance is dictated by the *most* able member, as it is this individual who will produce the best solution to the group's assigned problem. Conversely, in conjunctive tasks group performance will be dictated by the *least* able member as the group will only complete their task once this individual has finished. Kerr and Bruun found that in disjunctive tasks, the *low ability* members withheld effort as they perceived their contributions to be unnecessary to the success of the task. However, in conjunctive tasks, *high ability* members withheld effort as they knew no matter how well they performed, their performance would still be compromised by low ability members. Thus it is clear from these findings that several aspects of both the individuals involved in the task and the task itself impinge on the likelihood of social loafing occurring.

Strategic withholding of effort in groups

So far, we have examined malfunctions within groups that are a result of individuals withholding effort due to a lack of motivation. However, there may also be cases in group interactions where individuals *deliberately* withhold effort in order to take advantage of other members in the group. When an individual "attempt[s] to benefit from group membership without bearing a proportional share of the costs" (Schnake, 1991; pg 42) that individual is said to be *free-riding.*

Here a problem arises: as we have mentioned, there is an evolutionary advantage in entering into collaborative endeavours with others as this facilitates achieving goals which are unattainable alone. However, there is also an advantage to

deceiving the group to which you belong into believing you will contribute and then free-riding. Individuals may pretend to work with others in order to achieve a collective benefit, but then may renege on this agreement in order to pursue their own personal interests. For example, in society it is beneficial for all members of the public to follow the prescribed norms of the "group" and use monetary transactions to buy goods and services. Conversely, it is in the interest of the *individual* to violate this norm and simply steal whatever it is they require. A conflict then arises between what is best for the collective and what is best for the individual; a conflict which may lead to extreme dysfunction within a group. Consider a society in which all members pursued their own individual interests – this circumstance would reduce society to anarchistic levels of chaos.

The threat of new members to group stability.

It is this concern that may be of paramount importance to open groups. A group which contains too few individuals to sustain a sufficient level of productivity can be said to be *understaffed,* and it has been shown by Cini, Moreland, and Levine (1993) that understaffed groups typically become much more open to new members and are less particular about the individuals who they allow into their ranks. However, despite the benefits that they bring to a group, new members are typically viewed with a certain amount of distrust and suspicion by established group members (Ziller, Behringer, & Jansen, 1961). This is because they may be seen as a factor which may destabilise the group and compromise group cohesion. More specifically, we can point to two types of *threats* that new members may represent.

Firstly, existing members may perceive new members as a threat to *group relations.* A newcomer may alter existing social or hierarchical structures within the group, and their presence may also cause established members to consider their own position within the group which may highlight previous forgotten dissatisfaction (Levine, Bogart, & Zdaniuk, 1996). Subgroups within the main group structure may also compete for the new members' resource which may cause conflicts and possibly reanimate old disagreements amongst members (Ziller, 1965). Furthermore, when investigating more culturally bounded social groups (in this case "Goths" and "hippies"), Widdicombe and Woofit (1990) found newcomers' adoption of cultural artefacts and language was aversive to old timers as it was perceived as a trivialisation of a cherished social identity.

Secondly, existing members may perceive new members as a threat to *group resources*. That is, as the group has had no direct experience with the newcomer previously, it is difficult for them to predict their behaviour. Therefore, they cannot be certain that the newcomer will not free-ride on their efforts and exploit other group members for their own individual benefit. Furthermore, because the carrying of free-riding members is highly undesirable, it is possible that perceived free-riding will cause other, previously contributing group members to withhold resources, leading to a drastic reduction in productivity (Schnake, 1991). Other research too has shown that individuals will prevent free-riding individuals from benefiting from their efforts even at a cost to themselves, enacting sabotage in social dilemma situations (Kerr, 1983) or outlaying personal endowments in order to punish those defecting against others (Fehr & Fischbacher, 2003). Therefore, a perceived threat to group resources in the form of free-riding can have serious consequences for the overall productivity of the group.

If established group members find newcomers aversive, it is most likely because of their lack of *trust* towards them. Although the extrication of exactly what trust entails is an extremely complex topic (see Kramer, 1999; Meyerson, Weick, & Kramer, 1996 for more in depth review), a simple definition is an individual's confidence in the goodwill of another individual towards them (Hwang & Burgers, 1997; Yamagishi & Yamagishi, 1994). In the case of new members, old-timers may be decidedly lacking in confidence in new members as they have no prior experiences of that individual to base inferences of the newcomer's benevolence on. However, we can also make a distinction here between *trust* and *assurance* (Yamagishi & Yamagishi, 1994; Zucker, 1986). This latter characteristic refers to an individual's confidence in the occurrence of certain behaviour because of a situational factor, rather than a dispositional trait of the actor. For example, a group may feel confident that a newcomer will contribute whilst they are on a probationary period as they know that individual will be dismissed if they deviate from what is expected of then. However, this cooperative behaviour is not attributed to the internal characteristics of that individual; rather, it is situational constraints that are compelling them to contribute.

Open groups then may regularly require new members in order to sustain themselves, but may be concerned that new members will prove unsuitable. As a result, there may be feelings of distrust towards new members and an unwillingness to

grant them entry to the group. To explain exactly how groups resolve this conflict, we can examine the enormous amount of research that exists regarding behaviour in *mixed-motive situations* or *social dilemmas*. In the following section, these ideas are described in detail to illustrate how they can impinge on our understanding of collaborative endeavours and cooperation in groups.

Mixed Motive Situations: Prisoner's Dilemmas and Social Dilemmas

Dyadic cooperation in a Prisoner's Dilemma

A Prisoner's Dilemma (PD) is based on the idea that two criminals are in police custody on suspicion of committing a crime, and are being interviewed separately. The police must attempt to get a prisoner to implicate the other in the crime in return for immunity, and the entire penalty falling on the other. In PD terminology, this behavioural choice is know as *defection.* Alternatively, each prisoner can choose to stay silent, and if both do this, they will be charged with a less severe crime which carries a short sentence. This is known as *cooperation.* Figure 1 shows the typical matrix of a Prisoner's Dilemma with the numbers indicating the time that Prisoner A and B will spend in jail as a result of their choice to cooperate or defect.

		Prisoner B	
		Don't implicate (Cooperate)	Implicate (Defect)
Prisoner A	Don't implicate (Cooperate)	2 2	0 8
	Implicate (Defect)	8 0	6 6

Figure 1

Example Prisoner's Dilemma matrix

If we examine prisoner A's choices, we can see that the logical, rational choice for him to make is to defect and implicate his partner, allowing him to go free. However,

if this is the logical course of action, it makes sense that prisoner B will also defect. If this is the case, both prisoners will be worse off than if they cooperated and chosen to remain silent. The essence of a prisoner's dilemma then is demarked by a conflict between individual and collective interests. Each prisoner is always better off if they defect compared with if they cooperate, regardless of the choice of the other prisoner, and both are better off if both cooperate rather than defect.

Social dilemmas take this basic conflict and apply it to groups of *more* than two; as such they are often referred to as "n-person" Prisoner's Dilemmas. A social dilemma can be characterised as a situation wherein an individual can pursue a course of action which offers a clear and unambiguous incentive when made by them alone, but provides poorer outcomes when pursued by all or most of the individuals within the group (Dawes, 1980). Paradoxically then, by carrying out what seems to be logical and rational behaviour, group members are worse off than if they had been irrational. Social dilemma paradigms therefore offer an excellent way to study interdependence situations and the motivational conflict they contain and allow us to examine real world motivational conflicts in an experimentally robust format.

Types of social dilemmas

Social dilemmas can be classified broadly into "take some" and "give some" categories (Dawes 1980), and in each case players' behavioural repertoires are limited to the choice between defecting and cooperating. In "take some" dilemmas, individuals are required to harvest resources from a common pool with the aim of obtaining as much of the harvest as they can, but also sustaining the harvest for as long as possible. Hence, a conflict arises; players may defect and take as much as they want but in doing so rapidly deplete the resource. If all cooperate and agree to limit their subtractions, the resource can be sustained, but this course of action is less individually rewarding than defection.

A real-life example of this dilemma is reported in Hardin' classic (1968) "Tragedy of the Commons" study, a situation in which a section of arable farmland was laid to waste by a group of farmers who attempted to maximise their personal gain by continuously adding to their herd. Thus a conflict was present between individual and collective benefits; farmers could cooperate and limit their number of cattle or defect and place as many as they wished. In this case, widespread defection left the land unusable leaving all farmers worse off than if they had cooperated. The

continual citing of this story as an example of a "take some" social dilemma has lead to the use of the term "a commons dilemma" as a synonym for this type of interdependence situation.

A "give some" dilemma by contrast involves players contributing endowments towards the realisation of some benefit which is then available to all those within the group regardless of whether they contributed towards its provision. These situations are also known as "public-goods dilemmas" to reflect the free access that those in the group have to the resource provided by contributions. The crux of these scenarios is that it is preferable for an individual to utilise the public good without contributing towards its realisation (i.e. to defect and pursue personal benefit); however, if all members of a group do this then contributions will be insufficient to provide it. An oft cited example is that of television licenses: an individual is free to watch television without buying a licence, but if all (or most) television watchers do this, there will be no revenue to produce programs and the good will cease to function. By cooperating and contributing adequately to the provision of the good, the group as a whole is better off.

Public-good social dilemmas exemplify the conflict that exists in many real-world groups in society. It is preferable for us to free-ride on the efforts of others; to enjoy the benefits of group membership without contributing towards their upkeep. It is better to dodge taxes, to steal from shops, and to generally pursue our own individual desires; however if all members of society chose to "defect", life would be much less pleasant. In order to avoid these circumstances, psychological research into social dilemmas has arrived at a number of solutions to resolve the conflict between individual and collective interest, and methods have been described which indicate how to reduce incidents of free-riding and increase cooperation in interdependence situations. Broadly speaking, these solutions tend to fall into three categories. Firstly, there are factors which relate to the characteristics of individuals within the group which we term *individual* solutions. Secondly, changes can be made to the ways in which members of the group interact with one another. These are known as *relational* solutions. Thirdly, we can consider the way in which the group itself constructed. We term these *structural solutions.*

Individual solutions to social dilemmas

Social Value Orientation. Social values can be defined as "distinct sets of motivational or strategic preferences among various distributions [of pay-offs or benefits] for self and others" (Liebrand, Jansen, Ruken, & Suhre, 1986, pg 203). Much research into social values (e.g. Messick & McClintock, 1968) has reported that individual can exhibit stable, pervasive social values which can consistently influence their choice behaviours, i.e. they exhibit long standing social value *orientations* (SVOs) which can be used to predict behaviour in choice situations. Most research (e.g. De Bruin & Van Lange, 2000; Van Lange & Kuhlman, 1994) focuses on three types of SVOs. *Cooperators* are individuals who are concerned with the maximisation of joint outcomes in any situation. *Individualists* are those who attempt to maximise their own outcomes but give little concern to the pay-offs of others, positive or negative. By contrast, *competitors* seek to maximise the *difference* between theirs and others' outcomes. In the context of social dilemmas, SVO's are often diagnostic regarding the likelihood that a player will choose to cooperate (and pursue collective benefits) or defect (and only consider their own personal interests). Unsurprisingly, individuals displaying a cooperative SVO are found to be much more likely to cooperate than those with an individualist or competitive SVO.

Social identity. Another strong influence on levels of cooperation in social dilemmas is the strength of collective identity felt by group members. That is, the extent to which an individual sees themselves as a member of a group and the extent to which that membership is meaningful and valued can have ramifications for that individual's tendency to cooperate rather than defect (cf. Tajfel, 1978, Tajfel & Turner, 1986). Typically, those experiencing high levels of group identification exhibit greater levels of cooperation (e.g. Brewer & Kramer, 1986), and experiments by De Cremer and Van Vugt (1999) indicate that this is due to a redefinition of the self to a collective group-orientation, reducing the distinction between individual and group goals.

Some simple techniques are available to make social identity in a group more salient which in turn should increase levels of cooperation in social dilemmas. One method is by emphasising existing shared social identities amongst group members. For example when using a participant pool comprising of University students, one might prominently mention in the introductory text that all group members attend that

University. An artificial social identity can also be constructed by informing participants within social dilemmas that they all share a common characteristic. This may be preferences for certain trivial matters such as film genres or even similarity in scores on experimenter-distributed tests. Indeed, experiments using *minimal group paradigms* wherein members are designated to a particular group based on completely arbitrary criteria such as the tossing of a coin (e.g. Brewer, 1979) have shown a marked increase in positive behaviours between in-group members. Another technique for enhancing social identity may be the presence of an out-group. Dawes and Messick (2000) report how this factor may increase the salience of a shared in-group social identity and thus increase cooperation. This may be even more pronounced if an explicit competition exists between groups, further accentuating in-group identities.

Relational solutions to social dilemmas

Communication. Communication amongst those involved in the dilemma also seems to increase cooperation. Dawes, McTavish, and Shaklee (1977) report that this effect seems to be dependent on the players communicating on *task-relevant* topics indicating that perhaps communication serves to clarify the "rules" of the game. Chen and Komorita (1994) also indicate that the effectiveness of communication could be that it allows individuals to inform and reassure others in the game of their intention to cooperate. In their experiments, pledges made prior to decisions to cooperate or defect indicating what course of action players would take influenced levels of cooperation congruent with these pledges. As well as this, communication may serve to "humanise" other players causing defection to be seen as more of a betrayal and therefore more aversive.

Reputations. If individuals engage in repeated mixed motive interactions, other players may come to form a certain impression of each other which may in turn influence their subsequent behaviour. That is, an individual may come to acquire a *reputation* as either a cooperator or defector, and other players may make decisions regarding interacting with that person based on that reputation. Thus, the opportunity for acquiring a reputation during social dilemma play can increase contributions from those involved. In an experiment by Milinski, Semmann, & Krambeck (2002), players engaged in one round of a public goods task, followed by one round of

"indirect reciprocity" in which they were required to donate money to one other person in the group During these donation rounds, players' contributions in all previous public goods task rounds were displayed. They found that contributions in the public goods tasks were significantly higher compared with a series of public goods tasks with no indirect reciprocity rounds, and concluded that this was due to players' concern regarding their reputation as a "contributor" which would in turn affect the amount donated to them during indirect reciprocity rounds. Thus, when players in a social dilemma are concerned they may acquire a negative reputation, rates of cooperation increase. Note though that this effect is only maximally effective if an individual may lose out due to a bad reputation. In the experiment above, players would be "penalised" for their poor contributions (by gaining little in indirect reciprocity rounds). If there is no comeback for previous actions, then only concerns of self-presentation would influence contributions.

Despite their ubiquity in real life, relatively little research has been carried out examining the role of reputations in mixed motive situations. However, there is indirect research that supports the idea of their effectiveness. The *identifiableness of contributions* in social dilemmas has been shown to increase cooperation rates (Fox & Guyer, 1978; Jerdee & Rosen, 1974), and it has been suggested by Kerr (1999) that perhaps fear of reprisals is what motives one to contribute when one can be observed by others. This concept relates to a second line of indirect evidence regarding *future interactions* with others as an incentive to cooperate. A commonly occurring pattern of cooperation in social dilemmas is that contributions tail off towards the end of a series of trials. This is because as an interaction comes to an end, players realise there is little incentive in placating other individuals with cooperative behaviour if this investment cannot lead to benefits in subsequent rounds. Put another way, we can argue that during the last few trials, a player becomes less concerned with their reputation as the investment that can be gleaned from being labelled a "cooperator" is less than that which can be gained from following personal interests (and defecting).

A solution to this problem is to imply to players in the social dilemma that future interaction is likely, or to not inform them how long the interaction will last. Trivers (1971) has argued in his paper on reciprocal altruism that the lifespan of organisms and their dispersal in an environment can influence their cooperative tendencies. That is, the more likely an organism is to encounter an interaction partner on a subsequent occasion (due to long life and/or the close proximity of conspecifics),

the greater the likelihood of cooperation in interdependence situations. Axelrod (1984) too has argued that increasing the salience of future interactions can augment cooperation through increasing interactants' reliance on establishing mutually beneficial relationships. More recently, Ba (2001) in her examination of on-line cooperation has argued that when interacting with individuals in the long term, the possibility of future interactions decreases the advantages of defection, but increases the advantages of cooperating as it promotes positive relations between the parties. Therefore, by making the length of a social dilemma uncertain, it can be argued that concerns regarding reputation will be heightened, and cooperation levels will increase accordingly.

The subject of reputations is something of great interest to this work, and one that will be returned to in subsequent chapters. For now, we simply point towards their use in social dilemmas and that the opportunity for reputation formation can be highly effective in eliciting contributions from those engaged in a mixed motive task.

The actions of others. The presence of a model may also influence the cooperative tendencies of players in a social dilemma. That is, if another player (whether real or not) who is meaningful to an individual cooperates (or defects), this may induce that individual to cooperate (or defect) as well. Parks, Sanna, and Berel (2001) examined this behaviour and discovered that players in a social dilemma would indeed copy the choice behaviour of other players they perceived as similar. However, in a second experiment, Parks et al. discovered that if participants were told about the outcomes of their model's choices, only large yield behaviour was copied. If the yield for the model's behaviour was low, participants engaged in the *opposite* type of behaviour. This seems to suggest that only models that appear successful will be followed. Henrich and Gil-White (2001) add weight to this argument by reporting how individual's tend to copy behaviours of others whom they perceive as high in status or prestige, presumably because their elevated standing is indicative of the successfulness of their behaviour. Reporting that highly regarded group members have cooperated should therefore increase the cooperative tendencies of others.

Structural solutions to social dilemmas

Group size. In general, cooperation in social dilemmas seems to decrease as group size increases (see Fox & Guyer, 1978 and Hamburger, Guyer, & Fox, 1975 for

some empirical examples). The reasons for this are congruent with the ideas surround social loafing; namely that a large group decreases the visibility of an individual's contributions thus making it easy to "get away" with free-riding and reduces the perceived dispensability of one's own contribution to the provision of the public good (Comer, 1995). As well as this, Komorita and Lapworth (1982) have also investigated the effect of manipulating the size of "decision units". Here, members of a group were divided into subgroups of varying sizes, with each sub-group making a single decision whether to cooperate or defect. In line with other group size research, Komorita and Lapworth found that as the number of decision units and the number of people within the units increased (and the ease of being identified decreased), rates of cooperation dropped.

Similar findings in work outside social dilemmas also support the idea of larger groups decreasing cooperation. Lea, Spears, & de Groot's (2001) work on *deindividuation* reports that when in large group, there is a tendency for members to increase their displays of deviant behaviour. So, as an individual becomes "lost in a crowd", their propensity for pursuing selfish individual benefits (and violating norms which prescribe the facilitation of collective benefits) grows.

Leaders. A simple solution to gaining the cooperation of others is by assigning a leader who can control the contributions of others. By placing one person in a position of responsibility, it is possible to coordinate group efforts to ensure sufficient levels of cooperation are reached. However, certain aspects of leadership style can impinge of the affective and behavioural responses of those in the group. Tyler (2002) reported that leaders can elicit cooperation by appealing to attitudinal concerns and increasing feelings of intrinsic motivation, or by controlling resources and threatening punishment. Although these methods may be effective, several researchers have indicated that autocratic or dictatorial leadership styles can have detrimental effects on the members of a group and reduce their positive affect towards it (e.g. De Cremer & von Knipenberg, 2002; Van Vugt, Jepson, Hart, and De Cremer, 2004). It has also been commented that certain leadership styles may be more suitable depending on the salient identities within the group. De Cremer & Van Vugt (2002) reported in their experiments regarding leadership in social dilemmas that a relational style - which emphasise the commitment and procedural fairness of the leader – was most effective when the social identity of the group was salient. By

contrast, when the personal identities of individual members were more prominent, an instrumental leader – who emphasised solving the problem of low contributions – was more effective in raising levels of cooperation. The assignment of a leader then may be a useful strategy when attempting to resolve issues of defection in social dilemmas, but care must be taken to ensure that group members are not aggravated by their presence.

Sanctioning systems. Recall that in our explanation of a social dilemma, the temptation to defect comes from the fact that free-riding on others gives a greater pay-off than cooperating. In terms of rewards and costs, it is preferable to receive television programs without contributing towards the licence fund as you will receive a benefit without laying out a cost – you get something for nothing. A sanctioning system removes this incentive by changing the structure of the group to make defection yield a *lesser* payoff than cooperation making it the less strategically viable choice. Typically, this takes the form of a *penalty* which is imposed on any player who does defect. Therefore, the initial gain for free-riding (i.e. the receiving of membership benefits without covering the cost) is negated once the sanctions are imposed, making the net gain less than if the individual had contributed Yamagishi (1986, 1988b) has shown experimentally that sanctions are highly effective in eliciting cooperation from individuals engaged in social dilemma. In his experiments, rates of cooperation increased significantly when a sanctioning system was in place compared with when it was absent as their presence discouraged potential free-riders from defecting and assured potential cooperators they would not be exploited. These ideas will be returned to in a later section when we discuss dynamic groups; for now, it is sufficient to indicate that sanctioning systems are a useful method of encouraging contributions towards the collective in mixed-motive situations.

Cultural differences in social dilemma cooperation

It is also worth noting that some considerable differences exist between cultures in terms of their perceptions of, and behaviours in, social dilemmas. Most notable are the differences between individualistic cultures (such as the United States) that emphasise individual achievement, and collectivistic cultures (such as Japan) that emphasise group achievement. Studies by Hayashi, Ostrom, Walker, & Yamagishi

(1999) indicate that the opportunity for modifying others' behaviour is an important component of Japanese cooperation compared with Americans who tend to concern themselves with the trust-worthiness of others. When engaged in an interdependence situation, Japanese participants felt it was important to feel a sense of control over the situation and their partner's behaviour. Accordingly, when their partners made their choice to cooperate or defect first and the participant was *not* informed of their decision, they displayed very low levels of cooperation. Conversely, when the participant made their decision first, they displayed high levels of cooperation as it was felt they were able to influence the decisions made by their partner through their actions. Interestingly, it did not matter if their partner was informed about their choice or not; although logically making a decision first when neither partner will be informed of the others' choice is identical to making a choice second, Japanese participants felt the *illusory* sense of control of the situation by being able to act first. By contrast, American participants displayed markedly different behaviour, showing no difference in their responses when information regarding choices was not exchanged.

Cooperation in groups – where do we go from here?

This section has aimed to illustrate how cooperation in interdependence situations can be elicited through a variety of means; primarily by addressing characteristics of individuals group members (individual solutions), the way in which these individual's interact (relational solutions), or characteristics about the group to which they belong (structural solutions). We have also briefly examined the cultural implications of social dilemmas, and how societies which differ in terms of their emphasis on individualism or collectivism may find some methods of increasing cooperation more effective than others.

Thus far then, we have established how groups form, interact with one another, and how cooperation can be elicited from those in the group to ensure the pursuit of collective benefits (i.e. cooperation) rather than individuals interests (i.e. defection). Recall however that the primary aim in this work is to examine the acquisition of *new* members to open, dynamic groups which are required in order to compensate for exiting members or to allow for the expansion of collaborative endeavours. It is the examination of these groups which will allow a greater understanding of the social interactions we continuously partake in within human

society. Surprisingly, little psychological research has embraced the idea of groups as complex systems (although obvious exceptions are Arrow, McGrath, & Berdahl, 2000 and McGrath, 1991). However, two researchers who have attempted to comprehensively document the relations between individuals and the groups to which they belong are Richard Moreland and John Levine in their Group Socialisation model. In the following section, we detail some of the central tenets of this model and examine how it may illuminate our knowledge of newcomer acquisition.

The Group Socialisation model

First described in Moreland and Levine (1982), the Group Socialisation Model attempts to outline the processes by which an individual joins, participates in, and eventually exits a group. Crucially, it describes processes that are *reciprocal* in nature. That is, the processes in the model are experienced by both individual *and* the group, offering a perspective that is often neglected by the group dynamics literature. Therefore, it is a valuable tool in disseminating the process of member acquisition from the perspective of the recipient group.

According to the model, significant changes in relations between an individual and a group are demarked by three processes. Initially, both parties engage in *evaluation* of the other. This entails deciding what goals they require the other party to help them achieve, and how that party's ability to fulfil these goals can be measured. For example; when a rugby team seeks to recruit a new player, they will want this player to help them win matches, and they will most likely look at that player's past performance to evaluate that. The player in turn, will want the prestige of joining an excellent club, and can evaluate this from the *team's* previous form.

Each party's evaluation leads to the calculation of the past, present, and future rewardingness of the relationship with the other party compared with the past, present, and future rewardingness of *alternative* parties. Thus, the rugby team may compare how their potential team-mate has performed in the past and how they may perform in the future and compare them against other the past and future performances of other possible recruits. The player too will compare how well the club has done the past and may do in the future against other clubs they may join. The result of this rewardingness calculation leads to both parties forming feelings of *commitment* towards the other; the second central processes in the model.

The formation of commitment by one party towards another is a fluid in nature; feelings of commitment can change over time depending on the perception of rewardingness. It is only when commitment reaches a sufficient level – termed the "decision criteria" by Moreland and Levine (pg 149) that the final process in the model is reached: *role transition.* This indicates an important change in the way in which parties regard and treat one another and marks a landmark in the individual's passage through a group. So, in our rugby example, if the team feels sufficiently committed towards the potential team member, they will attempt to enact a role transition to make them a new member. If the player has also reached their decision criteria, they too will attempt to initiate this role transition, and that individual will accordingly join the team. Note however, that this is an idealised picture of the process; it is possible that one party will reach their decision criteria of commitment whereas the other will not. For example, the potential team member may not be sufficiently convinced that the team attempting to recruit them is the one they wish to join. Typically, when one party has reached their decision criteria ahead of the other, they will attempt to persuade that other party that the role transition is a good idea and engineer its occurrence by either raising the unconvinced party's commitment towards them or by lowering that party's decision criteria to meet their current level of commitment towards them. For example, a rugby team may attempt to persuade an uncertain potential team mate to join by highlighting the benefits of membership, increasing the perceived rewardingness of the relationship and that individual's commitment accordingly. Or, by convincing the player that their expectations are unrealistic, the team may convince that individual to lower their standards and join.

Within the Group Socialisation model, these three processes of evaluation, commitment formation, and role transition are said to precede the four significant changes in relations between individuals and groups. First, an individual giving rise to sufficient level of commitment may gain *entry* to the group. Whilst participating as a new member, the group may come to feel more confident in their skills and motivation leading to the second event of *acceptance* as a full group member. At some however, one party may deviate from what is expected of them. This leads to the third event of *divergence* between the individual and the group. Failure to resolve differences here do so here leads to fourth membership event – that of *exit* from the group.

A key aspect of the Group Socialisation model is that it also describes the membership phases that exist before and after these membership events. That is, it details the ways in which a functional relationship is maintained between an individual and a group. It is these ideas that are vital to the understanding of the interplay between individuals in dynamic systems. As such, the following sections describe these phases in detail to fully expound how they may impinge on our understanding of group dynamics.

The Selection of New Members and the Importance of Commitment

Before an individual has entered a group, the Group Socialisation Model postulates that group members will engage in a phase regarding their suitability for membership known as *investigation*. Any information which a group can glean from this process should allow them to better predict the behaviours that a new member will enact once they are in the group, and better assess what their contributions towards the group are likely to be (Moreland & Levine, 2002).

The exact nature of the criteria groups look for in new members is very much dependent on the type of group in question and the type of contributions they wish to elicit from members. For example, social groups may look for contributions towards the general sociability of the group, and so will most likely look for characteristics of new member that indicate affability and compatibility with current members. However, as a group's performance comes to be evaluated along more objective, tangible lines, so a group will come to look for new members in terms of these lines (Zander, 1976). For example, a group of friends who meet to play football each week may be more concerned with a new team mate's amiability, whereas a Premiership football team would be more concerned with a new team mate's ability to score goals.

However, regardless of how contributions are manifested, it is of interest to all groups to examine whether a new member will be motivated to actually *make* these contributions. A Premiership football club member may well be very skilled in the game, but will they use these skills for the benefit of the team? To put it another way, what characteristics of a potential group member can ensure they are motivated to make whatever contributions are required of them? One highly persuasive factor may be the candidate's *commitment* towards the group.

Commitment as a desirable candidate characteristic

As we have already seen, commitment features heavily in the Group Socialisation model, with a sufficient amount being necessary for an individual to undergo a role transition. However, many other researchers have also indicated the importance of commitment in individual-group relations.

Most classifications of commitment discriminate between an individual's desire to maintain their membership to a group, and their desire to actually *operate* as part of that group (Kanter, 1968; McFarlane Shore, Barksdale, & Shore, 1995; Mayer & Schoorman, 1992; Meyer & Allen, 1991). In the former an individual is committed to a group because of the costs associated with leaving and/or the rewards they gain from staying. For example, an employee may stay with an organisation due to the excellent pay they receive and/or the lack of alternative employers. This is commonly termed *continuance commitment,* although there is little agreement in the literature regarding commitment terminology. Alternatively, an individual may stay and work for a group because of their emotional attachments and acceptance of group goals. For example, an individual assisting a charity may work voluntarily for no pay due to their affective involvement with that organisation's goals. This is often termed *affective commitment.*

These types of commitment are also found to affect group member's contributions in different ways. Because affective commitment is a form of intrinsic motivation for group members due to the high regard they have for group goals and ideals, it is usually positively related to member contributions. Conversely, continuance commitment does not necessarily correspond to high levels of exertion on behalf of the group, and individuals exhibiting it are only interested in maintaining their membership to the group rather than serving the group's purpose. Therefore, it is possible that individuals tied to a group via secured commitment will only offer the bare minimum in order to avoid removal from the group.

This simple bipartition of commitment types is common within the literature; however, other researchers have argued for the existence of other forms of commitment. Meyer and Allen (1991) offer a three component model of commitment which includes what they term *normative* commitment alongside continuance and affective commitment. Here, and individual maintains membership with a group through feelings of *obligation*. For example, an individual may have been given expensive training by an organisation, and therefore feels compelled to stay in its

employ to "pay them back" for their efforts. Kanter (1968) also argues for the presence of *control* commitment in some group members. This form of commitment relates to individuals who validate their identity and significance in terms of their place within a group. An example of this may be found in individuals that are devout members of a church, and remain with that church because they feel it would diminish them spiritually if they left.

Commitment then appears to be a desirable trait in group members as it increases the expectation that they will internalise the group's values, work towards the group's goals, and wish to remain in the group. Furthermore, this relationship does not seem to be confined to any particular group type nor to certain kinds of goals; if an individual is committed, they are orientated towards enacting pro-group behaviours, regardless of the specific nature of these behaviours. Commitment cannot arise without an individual in some way valuing the behaviours required of them as a member. As such, we may cite it as an excellent characteristic for potential members of *any* group to possess, and highly diagnostic of their probable contribution rate to group goals.

Commitment and new members

Although this summary indicates that conceptualisations of commitment are replete within the literature, the above delineations are problematic in that they relate primarily to individuals who are *already* members of a group. For commitment to be useful here, a definition must be formed that embraces dynamic nature of this work, and that can relate to the crossing of boundaries from non-member to new member. Furthermore, although our previous advocate of this perspective – the Group Socialisation model – utilises commitment as an important transition characteristic, its usage is unsuitable here. That is, we postulate that a group reacts to displays of commitment by candidate member. By contrast, the Group Socialisation model indicates how groups themselves formulate *their* commitment as a consequence of their evaluations of that candidate. Indeed, the formulation of the Group Socialisation's "version" of commitment may be as a result of commitment displays enacted by a candidate, as this would increase the perceived rewardingness of that individual felt during the evaluation process of the model.

A definition which embraces this idea of inclusion *into* a group has been described by Nesse (2001), who defines commitment as "the act or signal that gives

up options in order to influence someone's behaviour by changing incentives or expectations" (pg 13). So, if a candidate for membership indicates to a group that they have relinquished a valuable artefact to enter their ranks (for example, by giving up a high salary in their current job to join another organisation), this should be perceived by group members as an expression of commitment towards the group. Therefore, it is this definition that we use in this work, as it allows us to examine how overt displays of commitment by candidates for group membership are reacted to by the groups they wish to join.

To summarise then, one salient characteristic of candidates for membership during investigation may be the *commitment* they display towards the group. This may be given in the form of the giving up of alternatives or the sacrificing of valuable incentives in order to join. A sufficient display of commitment from a candidate for membership may then lead to a *role transition* which leads to the entry of the candidate to the group as a new member. According to the Group Socialisation model, following investigation and entry, an individual undergoes the second phase of group membership. Here, existing members aim to "mould" the newcomer into a prototypical member who will be sufficiently equipped to perform on behalf of the group. This process is known as *socialisation.*

Socialisation in Groups: Definitions and Concepts

According to the Group Socialisation model, socialisation is the processes by which "the group attempts to provide the newcomer with the knowledge, ability, and motivation that he or she will need to play the role of a full group member" (Moreland & Levine, 1982; pg 163). A similar definition is also offered by Van Maanen (1976) who describes socialisation as "the process by which a person learns the values, norms, and required behaviours which permit him to participate as a member of the organisation" (pg 67). A key component of these definitions is that socialisation does not simply "teach" a new member what is required of them, but also instils them with the motivation to *enact* appropriate behaviours. Socialisation can therefore be an effective tool in eliciting cooperative behaviour from members that have entered a group.

Perspectives on socialisation and techniques for its implementation

Although a simple definition of socialisation is relatively easy to envisage, the psychological literature on this topic is rather fractured, with little agreement existing regarding its minutiae. Saks and Ashforth (1997) have attempted to reconcile this problem by presenting an overview of the various perspectives into socialisation that have been offered. To complement this, we can also offer methods which integrate into these perspectives which have been empirically tested, most notably by Van Maanen (1976).

Firstly, Saks and Ashforth examine socialisation from the viewpoint of Uncertainty Reduction theory (Falcione & Wilson, 1988) which reports that during their initial entrance to a group, new members experience high levels confusion and bewilderment about what is required of them. Accordingly, they become motivated to reduce these feelings through information acquisition, and as the groups expectations are conveyed to them, they experience greater satisfaction, comfort, and increase their contributions towards the group. Empirically, one socialisation method that incorporates this perspective is the idea of *training* a new member. This involves imparting to new members the necessary skills and knowledge required to enact their role within a group or organisation (Van Maanen, 1976). Typically, this will involve some formal element of teaching by an established member and is usually a fairly passive experience for the new member.

A second perspective cited by Saks and Ashforth (1997) emphasises the importance of promoting self-efficacy in new members, in line with Bandura's (1986) social-cognitive theory. Here, newcomers can be induced to cooperate by increasing their feelings of mastery over their group tasks. Socialisation in this case should then take the form of assistive teaching and support of new group members in role, and gradually allowing them to become independent and act autonomously. Van Maanen (1976) indicates that *apprenticeships* may be an effective method of socialisation from this perspective. This will involve the pairing of a new member with an established member who can then involve them in an intense socialisation process which can encompass both the teaching of requisite skills and also the values of the group.

Finally, it has also been suggested that socialisation can take the form of cognitive sense-making (Louis, 1980) wherein new members attempt to organise their perceptions of the group and its members to produce a mental schematic of the groups

operations. The socialisation process could therefore involve a new member being exposed to various levels of operation within the group and where within that they fit in to allow them to grasp what is required of them and how their contributions impinge on the group's overall productivity. A common method of socialisation in line with this perspective is the use of *debasement experiences* or *initiation ceremonies* (Van Maanen, 1976; Aronson & Mills, 1958). These involve subject new members to humiliating and/or dangerous experiences in order for them to be considered a "proper" group member, and are usually implemented by more socially-orientated groups where strong emotional bonds between members are more important. These ceremonies result in new members capitulating to group pressure and indicate to them the influence that the group has over their lives which in turn leads to greater conformity to group norms and ideals. Furthermore, in order to reduce cognitive dissonance felt after undergoing unpleasant entrance rituals, new members usually feel an increase in liking and favourability for a group (Aronson & Mills, 1958; Festinger, 1957).

Other socialisation practices also exist which utilise the concept of sense-making which are less physically severe in nature, although not necessarily less pleasant for the new member. Lois (1999) and Fine and Holyfield (1996) report that some groups will engage in the shunning of new members and the emphasising of how little importance the new member is in the face of the group's overall mission. If a new member wishes to stay in the group, they must prove themselves to established members as "worthy" of membership by demonstrating group-beneficial behaviours and attitudes which in turn increase group productivity.

Dimensions of socialisation

As well as considering various perspectives and strategies for socialisation, it has also been of interest to researchers to examine the various dimensions on which socialisation can be measured in order to classify types of socialisation in terms of how, where, and by who they are implemented. In pursuit of this, Van Maanen (1978) has offered a deconstruction of socialisation which allows any such process to be described in terms of where they lie on seven dimensions. The first dimension cited relates to the *formality* of socialisation; the extent to which new members are educated separately from established members (formal) or are immediately placed in the active group and socialised "on-the-job" (informal). A second dimension of

socialisation is whether the new members are socialised by themselves (individual) or with other new members (collective). Third, socialisation may consist of several discrete stages (sequential) or a single transitional phase (non-sequential). Similarly, a fourth dimension of socialisation is whether moving between stages of socialisation is standardised temporally (fixed) or whether transition occurs only when socialisation-agents deem it appropriate (variable). A distinction can also be made regarding whether those undergoing socialisation are competing with one another, with socialisation representing a filtration process (tournament) or if all new members simple advance through the process in the same manner (contest). Whether new members are replacing departing members (serial) or filling an entirely new role (disjunctive) may also affect socialisation processes. Finally, socialisation practices may act to confirm the identity and personality of a new member (investiture) or may seek to strip new members of their own individuality and provide them with a group-orientated identity (divestiture).

Following successful socialisation, a new group member will experience the membership event of *acceptance* and become a full group member. They then enter the membership phase of *maintenance* wherein they begin to perform as a group member and contribute towards the goals of the group. At some point in this phase however, the relationship between individual and group may begin to disintegrate. In the following section, we consider how this may happen and the ways in which a group may resolve this problem

Resocialisation and the Use of Sanctions in Maintaining Cooperation

According to the Group Socialisation mode, once an individual has undergone socialisation and gained *acceptance* by the group, they then experience the phase of membership known as *maintenance* during which they begin to participate as a member and produce contributions towards a group's goals. However, the model indicates that at some point, members may display behaviour that is contrary to the group's expectations of them; for example, they may underperform and fail to contribute a sufficient amount towards the group. According to the Group Socialisation model, behaviour of this nature leads to *divergence* wherein the underperforming member becomes marginalised from the core of the group. When this occurs, a strategy open to group members in order to increase contributions in

divergent members and eradicate deviant behaviour is the use of *resocialisation*. Resocialisation is similar in nature to socialisation in that it attempts to provide members with the knowledge, ability and motivation necessary for them to make adequate contributions towards the group. However, because it is implemented as a *response* to members' behaviour, the nature and motives behind that behaviour can directly influence the type of resocialisation that is used.

Considerations in the implementation of resocialisation

To begin with, a group may consider the extent to which the deviant behaviour was accidental or deliberate. Moreland, Levine, and Hausman (2003) argue that group members will experience harsher consequences if their divergence is the result of volitional action. So, if a new member's lack of contributions are attributed to their naiveté or inexperience, they will most likely experience little chastisement from fellow group members. By contrast, if an individual's inactivity is perceived to be a conscious withholding of effort, they will be treated much more negatively by others in their group. Parallel to this idea, group members will also attempt to ascertain whether the deviant behaviour is likely to be enacted again and, if so, how often it is likely to occur (Zander, 1976). Unintentional and/or accidental violation of group norms will therefore be considered as less likely to occur again and be dealt with less severely than those group members who are perceived as persistent offenders.

The extremity of a member's deviant behaviour will also impinge on a group's reaction to it. Violations which have dire consequences for the group may lead to extremely severe reactions on behalf of members, even if such violations are accidental. Finally, the cost effectiveness of finding a replacement member may also influence a group's reaction to deviant behaviour (Moreland & Levine, 1982). If continual violation is likely, and if many alternate members are available, a group may decide to simply remove the divergent member from the group and bring in a substitute rather than attempt to resocialise them.

Methods of resocialisation and the use of sanctions

The methods used for resocialisation can be similar to those used in socialisation. That is, members who have diverged can undergo re-training to ensure they have the requisite skills for group productivity; they may be assigned a mentor or supervisor who can assist them and watch their progress or they may even undergo further

debasement ceremonies in order to reaffirm their commitment to the group. However, because its implementation is usually the result of member transgression, it may also contain a punitive component as a preventative measure against future occurrence. Furthermore, the extent to which deviant behaviour is seen as deliberate and damaging will influence the balance between re-education and punishment. This is because when deviance is pre-meditated, it can be assumed that the member possess the knowledge they require to participate, but is choosing to not. For example, in the case of free-riding, an individual is deliberately withholding contributions in order to exploit the efforts of others. Therefore, the issue is one of motivation rather than competence.

As mentioned previously, it is this kind of deviant behaviour that is of concern to groups when admitting new members. Old-timers may be anxious that newcomers may withhold contributions to group goals but still receive group benefits which may lead to destabilisation within the group. Therefore, resocialisation practices that are enacted to prevent this will most likely involve punitive measures against the divergent member. A common manifestation of this which has received a great deal of attention in the literature is the use of *sanctioning systems* to ensure cooperation from members involved in group tasks.

Sanctioning systems in interdependence situations

As has been mentioned in the discussion on social dilemma resolution, sanctioning systems have been shown to be effective in increasing cooperation in a number of interdependence experiments (e.g. Yamagishi, 1986, 1988b). The basic form of sanctions involves the changing of incentive systems within groups to make contributing to group goals more beneficial than withholding effort. That is, from a public goods perspective, defecting rather than contributing is a more profitable strategy as it allows a non-cooperative individual to receive the public good without outlaying the cost of its provision. A sanctioning system applied on such a situation usually invokes a *penalty* on those individuals who defect. Therefore, although their initial yield is greater than if they had cooperated, their net gain will be much less once sanctions have been applied and a portion of their goods subtracted. Consider for example an individual who parks their car on double yellow lines rather than pay fees to place their vehicle in a car park. Although initially they will have benefited from free parking by violating the rules of the "group" (i.e. the laws applied to the

general public), they will be fined for their action which will be more costly than what they would have paid had they used the car park.

An important aspect of sanctioning systems is that their presence is usually more beneficial as a preventative measure. That is, sanctions may deter defecting individuals such that their actual implementation is unnecessary. The application of sanctions to deviating group members may deter future instances of such behaviour, but such usage is inefficient and often costly to a group. Far better for a group is to install resocialisation practices that deter deviance from ever occurring in the first place. A representation of this idea can be seen in the problems of using *positive* sanctions. Here, individuals are supplied with a reward for enacting suitable behaviour. Note that such systems still falls within the remit of sanctions, as group payoffs are restructured to make contributing more beneficial than defection (Samuelson, 1991). That is, cooperation may initially be less profitable than defection, but with the addition of positive sanctions, the net gain will be greater. Generally, the use of positive sanctions is impractical, as the group must reward every instance of cooperative behaviour which may bankrupt the group. Applying sanctions to every instance of a behaviour puts too much strain on the resources of the group, particularly if the group is large. So too it is with negative sanctions; applying a punishment to all deviating members may be too costly for the group to sustain. Thus, it is far better for a group to discourage deviation altogether.

Using sanctions to elicit cooperation

As well as acting to deter free-ridings, sanction's usefulness may also stem from the fact that in social dilemma situations, individuals may often withhold contributions due to their belief that *other* members will not cooperate. Goal Expectation theory (Pruitt & Kimmel, 1977) argues that in order to contribute towards a social dilemma, individuals must have an expectation that others will also contribute, otherwise their efforts will be wasted. Dawes (1980) too reports that individuals may withhold contributions to group endeavours because of their "fear" that others will defect, something also referred to by Schanke (1991) as wishing to avoid the "suckers" pay-off. Other researchers too have investigated the saliency of fear of others free-riding in levels of contributions and found that when fear is low, cooperation is more likely to be forthcoming (Bruins, Liebrand, & Wilke, 1989; Messick et al. 1983).

The presence of sanctions within a group can therefore be used to increase members' confidence that others will contribute towards group goals, encouraging them to cooperate rather than defect. A salient point here is that this confidence does not necessarily increase positive feelings towards other group members. Rather, sanctioning systems can be used to increase the *assurance* that group members feel (Hwang & Burgers, 1997; Yamagishi & Yamagishi, 1994). Recall the distinction here from *trust* of other members; sanctions relate to confidence in contributions because of structural factors within the group rather than in the goodwill of others.

This facet of sanctioning systems prompted Yamagishi (1986) to modify Pruitt and Kimmel's (1977) work to produce *structural goal/expectation* theory. Here, it is argued that in order to contribute in a social dilemma situation, individuals must be assured that other members will contribute, *and* realise that the desire for attaining mutual cooperation is no guarantee that it will occur; i.e. situational constraints must also be applied in order to ensure all members contribute. So, the application of a sanctioning system to a situation will allow group members to feel confident that others will contribute, making the likelihood of mutual cooperation probable and causing contributions to increase.

A summary of the use of sanctions in groups

The Group Socialisation model indicates that an effective method of obtaining cooperation from a member who displays deviant behaviour is through the use of resocialisation which seeks to increase a member's motivation to contribute towards group goals and conform to group norms. When a group is concerned that a member may deliberately withhold contributions (i.e. that they will free-ride), an appropriate form of resocialisation may be the implementation of a sanctioning system which seeks to restructure a group's payoff system to make cooperation (as opposed to defection) the most profitable course of action for members. Resocialisation in the form of a sanctioning system can be an extremely useful tool for groups as, firstly, it can directly operate on marginalised members and reduce the deviant behaviour they may exhibit. Secondly, the presence of sanctions can act as a *deterrent* to members who have not diverged, and allow a group to maintain a high level of productivity.

The Present Research

A consolidation of perspectives

So far, we have considered two perspectives in an effort to understand the acquisition of new members to open, dynamic groups in which conflicts are present between individual and group interests. Firstly, we have considered the social dilemma literature which offers a variety of solutions to elicit cooperation from those engaged in a mixed motive interdependence situation. The research contained here however tends to focus on groups with a fixed number of personnel rather than an open system. Second, we have examined the Group Socialisation model, which describes the change in relations over time between an individual and the group to which they belong. However, this model is primarily a descriptive account of group interactions which does not address the motivational conflicts that often occur in collective endeavours.

The aim of this work is to synergise the ideas from these works to produce a prescriptive account of how groups engaged in a public goods dilemma may acquire new members who will work for the collective good rather than pursue their own interests. In doing so, we will attempt to uncover the methods by which a group may acquire new members in order to maintain desired levels of productivity.

To begin with, we can recall that in social dilemma research, characteristics of group members, the ways in which members interact, or characteristics of the group itself can all influence levels of cooperation. Here, we have referred to these as individual, relational, and structural solutions respectively. Thus we can postulate that during the acquisition of new members, strategies which address these solutions should be effective in increasing existing members' feelings of trust towards candidate members by assuring them of newcomer contributions. If this is the case, then the presence of these solutions should increase the likelihood of candidate entry, as existing members will feel confident of their contributions towards the collective and the reduced probability of their defecting.

To extract the precise nature of these solutions, we can utilise the ideas within the Group Socialisation model. In the model, we can find correspondence with the types of solutions to mixed motive situations given in social dilemma research. Existing members attend to characteristics of candidate members during investigation (individual solutions), to the ways in which they interact with others during socialisation (relational solutions), and to the ways in which the group can be

structured during resocialisation (structural solutions). Accordingly, we postulate that these membership phases can be used as recruitment tools to assure existing group members of the contributions from new members. So, during the investigation phase, group members can utilise a *selection strategy* to allow entry to only those candidates who fulfil certain criteria. This ensures that those members entering possess characteristics that are desirable and indicate that they will cooperate with the group's goals. Furthermore, a salient selection characteristic may be a candidate's *commitment* towards the group, as we have already indicated this is a highly desirable trait for potential members to possess. Group members may therefore only grant membership to those candidates whom they believe are sufficiently committed to the group as they can feel confident that these individuals will cooperate and contribute towards the collective rather than defect and follow individual interests.

In addition, it may be that the presence of *socialisation* in a group acts to assure existing members that new members will contribute, and will therefore increase the likelihood of a new member being admitted to the group. Old-timers' concerns regarding free-riding may be assuaged as socialisation practices within a group will shape a newcomer's behaviour post-entry to bring it into line with group goals. Socialisation may therefore be another key component in explaining how cooperation can be manifested in open, dynamic groups. Existing members may use a variety of indoctrination processes which compel newcomers to enact group-beneficial behaviours, increasing the likelihood of their cooperation in interdependence situations, and reducing the negative affect felt towards them.

Finally, we may find that resocialisation in the form of *sanctions* in a group may also act to increase the likelihood of candidate gaining entry. If a system is in place within the group which acts to deter free-riding, then this may act to placate existing members who fear exploitation from newcomers. Resocialisation – along with selection and socialisation – may therefore be a third key factor in explaining the acquisition of new group members. By placing restrictions which penalise deviant behaviour within a group, members can recruit candidates and feel confident that they will cooperate with the group's goals in order to avoid any penalties.

The current studies

To empirically test our ideas, a public goods experimental task was constructed in which individuals are required to contribute towards a group "pool" in order to realise

a good which was shared equally amongst all members. The group's performance at this task was then fixed (via bogus feedback) so that they were underperforming, and members were presented with a candidate for membership who may join the group and assist them with their endeavours. Four studies then implemented the mechanisms mentioned above – selection, socialisation, and resocialisation – orthogonally and examined their relative impact on groups' decisions regarding new members.

In Experiment 1, we examined the role of commitment and resocialisation in the acquisition of new members. Participants were presented with candidates for membership who indicate their commitment to the group by informing existing members how much of their portion of the public good they were willing to give up upon entry. This is a form of commitment delineated as *secured* commitment by Nesse (2001) – it is facilitated by a third party making it contractually binding. In addition, the presence of resocialisation was manipulated through the implementation of a sanctioning system which penalised the least contributing member at the end of each experimental block. The frequency with which participants granted entry to the candidate was then examined to ascertain the usefulness of these variables in member acquisition.

Experiment 2 followed the same basic pattern as Experiment 1, with commitment and resocialisation again as the topic of investigation, and entry choices as the main dependent variable. However, commitment in this case was operationalised as the relinquishing personal significance and autonomy – something termed *unsecured* commitment by Nesse (2001) as it relies on emotional, affective concerns and is not bound contractually. It was of interest here to examine to what extent different forms of commitment influence member decisions. Resocialisation in Experiment 2 was again implemented via a sanctioning system; however its structure was altered to apply only to those who contributed below a certain amount (to increase its perceived fairness) and its severity was increased (to enhance its perceived ability to prevent free-riding).

Experiment 3 again examined the effect of commitment on participants' entry, but with a new operationalisation which did not impinge directly on the group's payoffs. This was to examine whether commitment itself was seen as a positive characteristics or if it was only influential when it had direct consequences for the group task. In addition, two new independent variables were investigated. Firstly, the

role of socialisation was examined to ascertain whether its presence would be sufficient to assure participants that a new member would be motivated to contribute towards the group. Secondly, the source of commitment information was manipulated to investigate whether the reliability of a conveyer of information in member selection could alter participants' attendance to it.

Finally, Experiment 4 built on the idea of source importance, and examined how other types of sources might affect a group's perceptions of a new member and their decisions regarding a member's entry. In particular, it was of interest to examine further heuristic bases for inferring source trustworthiness; in this case, the presence of a shared social identity. Furthermore, Experiment 4 also aimed to replicate some of the findings from Experiment 3 indicating that low commitment conveyed by the candidate for membership could actually increase their chances of membership to the group.

CHAPTER TWO: METHODOLOGY AND EXPERIMENTAL PARADIGM

The aim of this research was to examine the processes involved in a group's acquisition of a new member, and how these processes alleviate a group's fears that a new member will free-ride. To do this, an experimental paradigm was constructed in which participants engaged in a public-goods dilemma, similar in nature to that used in Yamagishi (1988a). This task was used in all in all four experiments, with adjustments being made within the basic framework depending on the independent variables in that study.

As the paradigm is quite extensive, this chapter has been included to describe the exact details. Subsequent chapters will then only describe their version's idiosyncrasies in order to aid conciseness and to highlight their differences from other experiments

Public goods tasks

The fundamental aspect of this paradigm is that participants are placed within experimental groups that are engaged in a *public-goods scenario.* As mentioned in Chapter One, this is a form of social dilemma in which individuals are required to contribute towards a group "pool", which is then distributed amongst all members equally, regardless of their original contribution[1]. A common example of a public goods scenario is the use of public television, wherein all television owners can watch programs regardless of whether they have contributed to their provision via a television licence. A similar situation can also exist in smaller groups, such as project teams in the workplace wherein an individual can still expect to be paid wages (or possibly a bonus for completion of the project) even if they withhold effort towards the team's output.

The experiments within this thesis actually used a variant of the public goods scenario known as a *step level.* Here, a certain quantity must be within the pool before this redistribution will occur. If this quantity is not provided, the public good is not realised and individuals engaged in the task receive no pay-off. For example, a community may require £50,000 to repair their church. If voluntary contributions reach this amount, the church will be repaired and all community members can attend

[1] A variation on this idea used in some social dilemma experiments is to transform the contributions prior to redistribution; for example, by doubling the pool.

regardless of whether they actually contributed to this total; however, if it is not reached then the church will not be repaired and no-one will be able to attend.

Free-riding in step-level dilemmas has potentially even greater ramifications for player pay-offs than in a standard dilemma task. This is because when engaged in a simple public goods task, contributing members may be able to carry a small number of free-riders and still receive a substantial amount of the public good (cf. Chen & Bacharach, 2003). By contrast, free-riding in a step-level task may lead to a failure to reach the required contributions, yielding *no* pay-off for players. This may enhance fears of free-riding as rather than carrying an under-performing member and losing a small portion of their public good, a group may receive nothing due to the lack of effort from that member. In addition, perceptions of free-riding in step-level tasks (whether they exist or not) may demotivate previously contributing members by decreasing the efficacy of their endeavours and cause them to withhold effort (Harkins, 1987). Therefore, a step-level was used in this work to heighten the concerns that group members may have regarding new members and increase the amount of thought and consideration that would go into membership decisions.

Pre-task procedure

The experiment was advertised as requiring participants to work in a group of three; therefore wherever possible the effort was made to convince participants that this many people were present in the lab during a session where less than three has signed-up. Participants were shown into separate cubicles where they could not see or hear each other and were informed that they would be interacting via computer only. Participants were then asked to sign consent forms, and fill in their name, age, and gender on the computer screen which displayed the experimental interface. Once this had been completed, participants were supplied with a record sheet which was used to record pertinent information during the course of the experiment, and asked to click on the button onscreen marked "Begin", where further instructions would be displayed. Participants were then shut into the cubicles with the request to only leave the cubicle once the computer informed them to do so (ethical considerations not withstanding). It should be noted that in the introduction to the experiment, participants were not informed that a new person would be introduced later in the task. This was so participants would not formulate strategies for the task which would take into account extra contributions at a later occasion.

Upon clicking the "Begin" button, participants were then provided with ID numbers for themselves and the other group members which they were asked to place on their record sheets. Although participants believed these unique, they were in fact the same for all taking part, and were only used so participants could keep track of any subsequent actions carried out by their group and increase the perceived authenticity of their interactions. The computer then supplied participants with information on the experimental task itself and instructions on how it should be carried out.

The experimental task

The task used required participants to answer simple puzzles that were presented to them via a computer. Participants worked in groups of three on this task, each answering their own set of puzzles, and periodically the total number of puzzles answered was tallied. If this total reached or exceeded 18, then total number of puzzles answered would be converted to points, and these would then be divided equally amongst all group members. For example, if participant A answered 9 puzzles, participant B answered 7 puzzles, and participant C answered 5 puzzles, this would make a total of 21 puzzles answered, reaching the step-level. Each group member would then receive 21 / 3 = 7 points each (decimals in each case being rounded down). Participants were informed that at the end of the experiment, the points they had acquired during the course of the task would be converted to lottery tickets wherein they could win cash prizes from £5 - £30. Therefore, it was assumed that participants were motivated to accrue as many points as they could. If the group total was less than the required step-level, the group received nothing.

The puzzles themselves consisted of participants being presented with a horizontally bisected screen, the top half of which contained a 3 x 5 grid with each sector containing a combination of three random letters (e.g. "ETH"). In the lower half of the screen, participants were presented with a *target combination;* one of the combinations contained in the top half, but in a different order (e.g. "TEH"). Their task was to locate the original combination, input it into the box onscreen, and submit their guess within 6 seconds – see Figure 2

OOR	BZF	ITF	EFU	CCX
DUU	TVN	MWT	FCU	DAV
RCV	VJX	OXN	FXK	XHB

UEF

submit guess

Note. In this example, the correct answer would be EFU (top row, one in from the right).

Figure 2

Display for experimental trial

Once participants had submitted their answer, an indicator appeared onscreen to inform them whether they were correct or not (see Figure 3 and 4). If participants failed to submit an answer within 6 seconds, an alert appeared onscreen informing them their time had elapsed (see Figure 5). In either case, participants then moved onto the next trial, where a different target combination was presented.

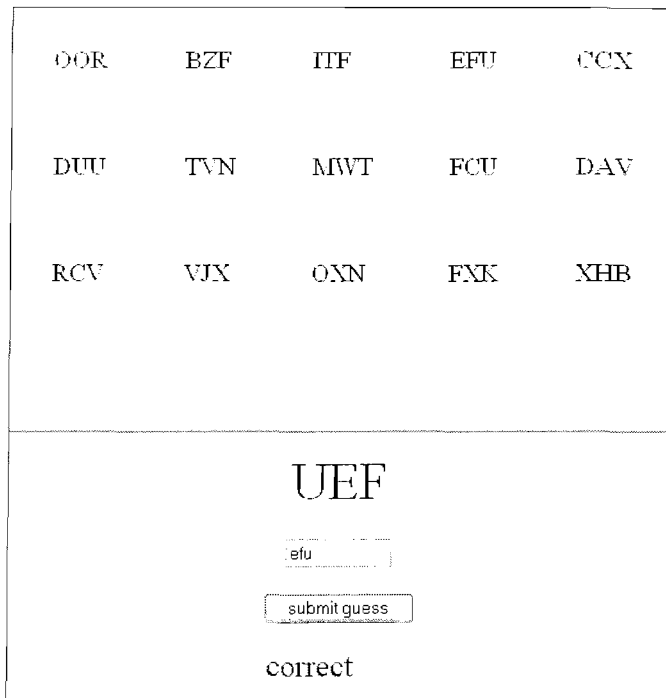

Figure 3

Display for correctly answered trial

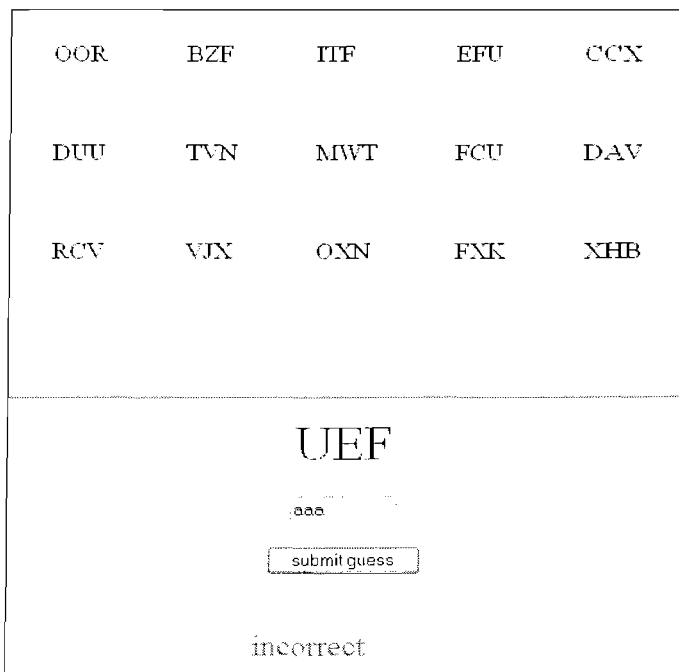

Figure 4

Display for incorrectly answered trial

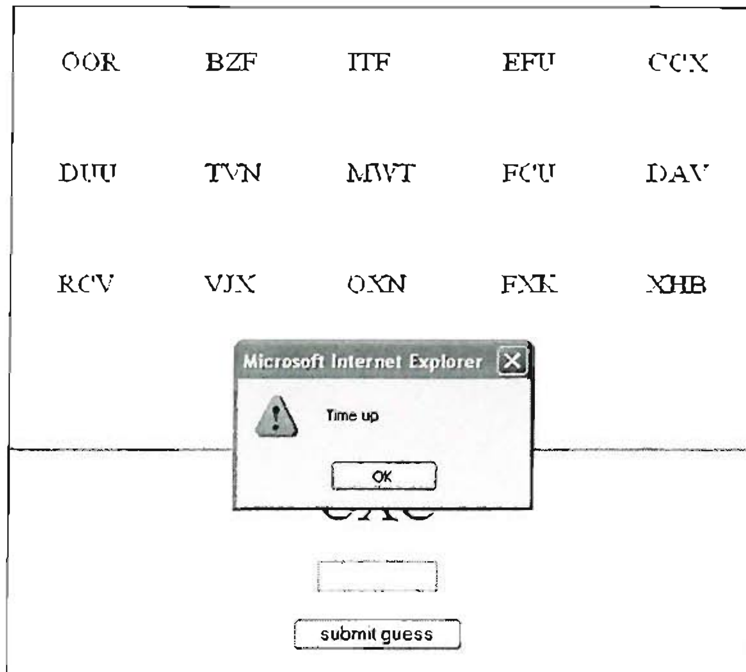

Figure 5

Display for trial time expiration

Once participants had been informed of how a trial operated, they were then allowed to undertake 10 practice trials. These were identical in nature to those used in the main task, except there was no time limit. In addition, if participant submitted an incorrect answer, an alert appeared onscreen to inform them of the correct answer (see Figure 6). Subsequent to these practice trials, participants were given a summary of how the experiment worked (including emphasis that the experimental task *would* have a time limit per trial of 6 seconds) and, once this had been read, the experiment began.

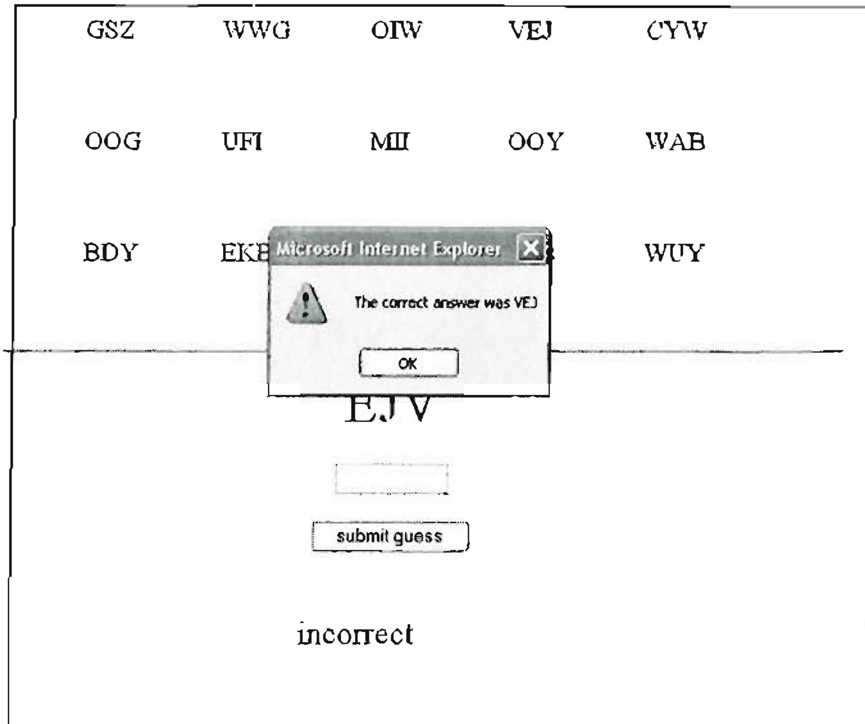

Figure 6

Incorrect practice trial (with correct response in alert)

The structure of the experiment was such that participants undertook 10 trials continuously (referred to as a *block*) before being informed of their progress. Within each block, the top half of the screen remained the same; that is, participants were presented with the same 3 x 5 grid with the same 3-letter combinations for 10 trials in a row. At the beginning of each block, participants were presented with a new grid which contained all different 3-letter combinations, and accordingly trials within that block used target combinations from that grid. Participants were also informed that the experiment would consist of 8-12 blocks; in fact, the experiment terminated before this number was reached in order to prevent end-game effects.

At the end of each block, participants were presented with a screen which informed them of the number of puzzles they had successfully answered in that block, the number of puzzles answered by their team-mates, and the total number of puzzles answered. This screen also informed them whether they had successfully attained the public good and how much this would be – see Figure 7 and 8

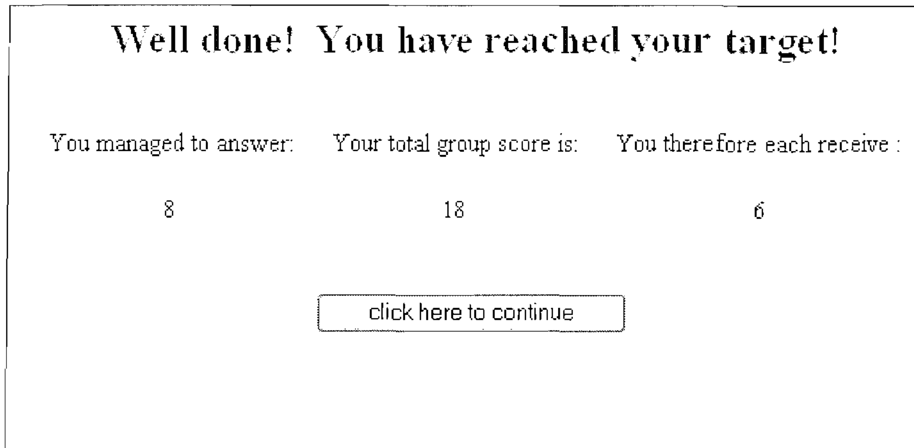

Figure 7

Progress screen presented at the end of a successful block

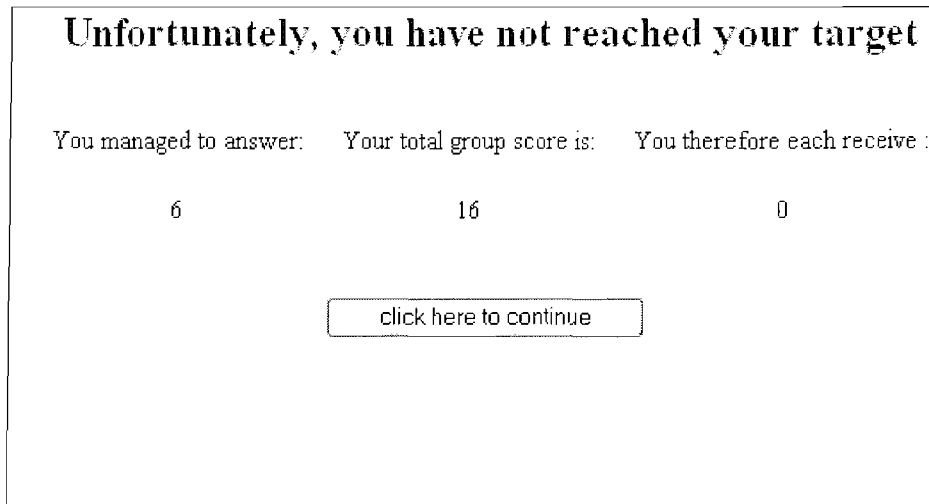

Figure 8

Progress screen presented at the end of an unsuccessful block

On this progress screen, the only information that was actually true was the total number of puzzles answered by the participant – all other information including whether the group had been successful in realising the public good was fixed by the experimenters in accordance with their design and hypotheses (see relevant individual chapters for more details). However, in all cases, the group failed to reach attain the

public good in at least 50% of the blocks. This was so participants could see that success was possible in the task, but also that they were *understaffed* (Cini, Moreland & Levine, 1993) and could benefit from a new member (providing, of course, that this member contributed towards the public good).

Presentation of manipulation and other information

After a pre-determined number of blocks (five in Experiment 1, four in Experiments 2 to 4), participants then told via the computer that they had the opportunity to allow a new person into the group to assist them with their task. Furthermore, they were informed that they would be presented with information that would assist them with their decision; this information would in fact be where the manipulations for the experiment would be introduced. Participants were then told that once they had examined the information, they would each be allowed to vote on whether they wished for the candidate to enter the group or not, with the majority rule deciding (see Figure 9).

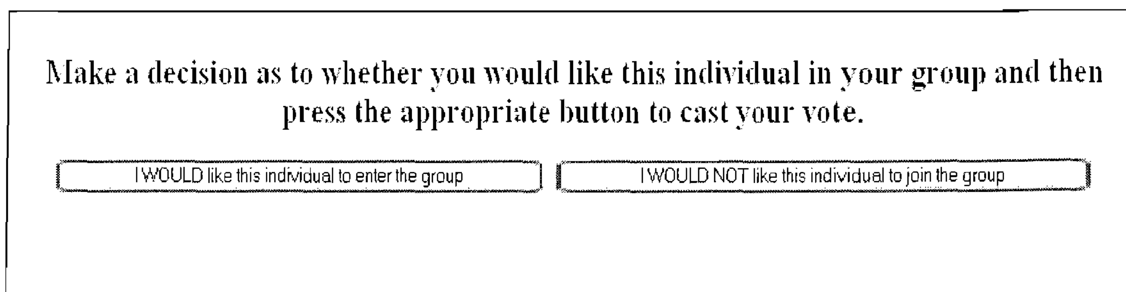

Figure 9

Voting system for admitting new group members

The exact nature of the information participants were provided with and the items they responded to before and after their vote depended on the individual experiment. However, in all experiments participants were informed before starting their next block of trials that the group had voted to admit the candidate and that the experiment would continue with this person also contributing towards the group total and receiving a portion of any public goods should they be realised.

Participants then continued with the experiment; however, they completed only one more block of trials before the experiment was interrupted by an alert onscreen and terminated due to "time constraints" (as mentioned previously, this was to prevent end-game strategies). Participants then filled out a post-experimental questionnaire; again, this differed substantially in each experiment. Once this had been completed, participants were debriefed, paid and dismissed.

CHAPTER THREE: SECURED COMMITMENT AND RESOCIALISATION IN MEMBER ACQUISITION[2]

Introduction

One of the paradoxes of group life is the contradiction between stability and change (Van Vugt, Jepson, Hart & De Cremer, 2004). Groups are often under pressure to recruit new members; either to expand, or to replace departing members. However, a characteristic of many groups is that they resemble a *public goods scenario*, wherein all group members receive the benefits of group membership regardless of their contribution towards their provision. For example, all members of a project team within an organisation may receive a bonus for successful completion of work, regardless of the individual effort they each invested. An artefact of such situations is that it is possible for group members to *free-ride* upon the efforts of other; i.e. individuals may deliberately withhold effort in order to maximise their personal benefits by receiving rewards without outlaying costs.

As a consequence, despite being an important and necessary commodity for group survival, new members may be treated with distrust and suspicion by existing group members due to the threat to group resources their capacity for free-riding represents (cf. Levine, Bogart, & Zdaniuk, 1996; Levine, Moreland, & Hausman, 2003; Ziller, Behringer, & Jansen, 1961). Furthermore, detection of free-riding may cause a drop in contributions by other, previously cooperative group members which may seriously damage the *stability* of the group (cf. Schnake, 1991; Yamagishi, 1986).

Herein then lies the *group membership* paradox. Groups require new individuals in order to sustain themselves, but the acquisition of newcomers could leave them open to exploitation and destabilisation. How do groups resolve this problem? The aim of this study is to investigate two quite different strategies that groups can use to safeguard against free-riding and assuage their fears regarding new members. Firstly, groups can specify *selection criteria* to candidates, and only allow those that fulfil them to enter the group. Second, groups can employ a *sanctioning*

[2] Chapters Three and Four have been submitted for publication as " Stiff, C. & Van Vugt, M. (submitted). Member selection and group formation: the role of group commitment" and as such may contain some replication of the material in Chapter One.

system which restructures the pay-off system within the group to make free-riding less profitable than cooperating with group goals (Yamagishi, 1986, 1988b)

Support for the strategies of selection and sanctioning in the acquisition of new members

The role of selection and sanctioning processes in securing cooperation from individuals is acknowledged in a number of existing theoretical perspectives. Social Exchange Theory (Thibaut & Kelley, 1959) reports that individuals enter into and leave a relationship based on the perceived rewards and costs that such a relationship implies, and are motivated to maximise rewards and minimise costs wherever possible. So, if the fulfilment of selection criteria indicates to group members that a candidate for membership will be likely to contribute towards the good of the group (and thus increase their rewards), it is probable that they will admit that person to the group.

In addition, social dilemma research indicates that individuals are keen to avoid interacting with free-riding individuals (e.g. Chen & Bachrach, 2003; Dawes, McTavish, & Shaklee, 1997; Orbell & Dawes, 1993; Van Vugt et al. 2004) and are attuned to information which may indicate whether it will occur. Indeed, evolutionary psychologists (e.g. Cosmides & Tooby, 1992; Cummins, 1999) have postulated that we have evolved specific cognitive capacities which are used in the detection and avoidance of possible free-riders. Therefore, any information which decreases the probability of free-riding in potential new members is likely to increase a group's endorsement of that person.

Third, the importance of selection and sanctioning is also suggested by the dynamic systems perspective on groups, which assumes that groups are open systems in which people frequently enter and leave (Arrow, McGrath, & Berdahl, 2000; Kenrick et al., 2003; Van Vugt & Hart, 2004). One of the most notable models embracing this dynamical systems perspective is the Group Socialisation model (Moreland & Levine, 1982). This model offers a thorough analysis of the development of individual-group relations across time as individuals join groups, become committed to these groups, and eventually exit them.

With regard to the selection of new members, the Group Socialisation model assumes that, in the initial stages of acquisition, groups will engage in *investigation to* assess the suitability of particular candidate members. Through investigation, groups

can make a calculation of the potential costs and benefits that candidate members bring to the group and decide whether or not to grant them entry.

The importance of commitment when acquiring new members

One important cue that groups may examine during investigation is the candidates' *commitment* to the group (cf. Moreland & Levine, 1982; Moreland & Levine, 2002; Van Vugt & Hart, 2004). Commitment can be formally defined as an act or signal that gives up options in order to benefit another individual, a group, or (in the long run) oneself (Nesse, 2001; Van Vugt & Hart, 2004). Commitment is a complex psychological concept, and a distinction ought to be made between two *forms* of commitment that vary considerably in their expression. First, commitment can be *secured* through the relinquishing of external incentives which is then enforced via third parties. For example, an individual will sign a contract upon joining a firm which prevents them from entering into employment with other companies. Thus, they have given up the option of joining another organisation, and this choice is enforced via legal precedent. Second, individuals may display *unsecured* commitment wherein they surrender their own autonomy and significance in place of the importance of the group as a whole (Kanter, 1968; Lois, 1999) - this will be discussed further in Chapter Four.

Regardless of the type of the signal, group commitment is a highly desirable trait in newcomers as it increases the expectation that they will internalise the group's values, work towards the group's goals, and wish to remain in the group (Kanter, 1965; Mayer & Schoorman, 1992; Meyer & Allen, 1991; Moreland & Levine, 1982; Rusbult, 1980). Expressions of commitment serve to allay the suspicion and distrust that current members feel towards new members of the group. Researchers have defined *trust* as the group's confidence in the individual's benevolence towards the group (Hwang & Burgers, 1997; Yamagishi & Yamagishi, 1994). Hence, by giving up attractive options to enter the group, and thus expressing commitment, groups can be more assured that a candidate is well-disposed and well intentioned towards the group and will therefore not free-ride on others' contributions. This gives rise to the following two hypotheses:

Hypothesis 1a: A candidate showing high group commitment is more likely to be granted entry to the group than a candidate showing low group commitment.

Hypothesis 1b: This relationship is mediated by the trust that current group members have in the candidate making contributions to the group

Securing group contributions through sanctioning

As stated earlier, there is a second way for groups to safeguard themselves against the threat of newcomers as potential free-riders. *Sanctioning systems* involve the restructuring of a group's make-up in order to make free-riding less rewarding than contributing. This alteration typically comprises of a *penalty* imposed on those individuals who fail to contribute adequately to a group. Therefore, the initial gain for free-riding (i.e. the receiving of membership benefits without covering the cost) is negated once the sanctions are imposed, making the net gain less than if the individual had contributed. Empirically, the effectiveness of imposing sanctions on free-riders has been shown in various group experiments (e.g. Yamagishi, 1986, 1988b).

What is the relationship between the two mechanisms of selection and sanctioning in securing members' contributions to the group? We hypothesize that the opportunity for sanctioning will affect the group's entry requirements for newcomers in such a way that groups may become less selective about whom they allow entry. This is because the presence of sanctions within the group should reassure members that newcomers will contribute, regardless of their pro-group motivations

This idea of a trade-off between selection and sanctioning leads to the final hypothesis of our research:

Hypothesis 2: A candidate with low group commitment is more likely to be granted entry into the group in the presence of a sanctioning system than in its absence. For candidates high in group commitment, the presence of a sanctioning system will have no effect on their entry outcome.

Method

Participants

Nine males and 73 females were recruited from the University of Southampton psychology undergraduate participant pool and from local Southampton colleges for a combination of course credits and a £3 payment. Participants' mean age was 19.03 years (*SD* = 2.38) with a range from 16 to 34 years.

Design

A 2 x 2 between participant design was used, involving the level of commitment of the candidate (high or low) and the presence of a sanctioning system (present/absent) as independent variables. Participants were randomly assigned to conditions, and each of the high commitment conditions consisting of 20 people per cell, and low commitment conditions consisting of 21 people per cell.

The main dependent variable in this experiment was the decision whether or not to admit the candidate. Also of interest was the extent to which participants trusted the prospective member and felt they would or would not be exploited by them. Trust measures were obtained upon completion of the experimental task.

Procedure and materials

Participants were initially brought together into groups of three and informed that they would be taking part in a simple task in which they would have to work together to earn points. Participants were brought into the main lab and seated at computers in separate cubicles where they were presented on the screen with information on the task. They were told that they would be interacting with the others in their group during the course of the experiment but would not be able to directly communicate with them.

The experimental task utilised the basic paradigm detailed in Chapter Two. Participants completed five blocks of trials in which their performance was fixed so they failed in three. At the end of the fifth block participants were told that they could allow a new member – who, they were told, was a participant in another experiment which had finished early - to enter and contribute along with existing members in order to assist them in achieving their goal of 18 correct puzzles. Participants were then told that they would each be asked to vote whether they would like the candidate in the group with the majority rule deciding, and that they would be presented with some information about the candidate to assist them with this decision.

Manipulation of group commitment. Commitment of the potential candidate was manipulated by supplying participants with information indicating how much of the group reward the candidate wished to receive while working in the group. This, by implication, showed the group the amount of reward the candidate would be giving up in order to join, which would then be enforced by a third party (i.e. the

experimenters) in keeping with our definition. Normally, the group reward would be equally divided, and each member would be entitled to 25%. In the *high-commitment* condition, however, participants were told that the prospective member would only want 10% of any reward that the group would earn (implying they had relinquished 15% of their "deserved" portion). In the *low-commitment* condition, the prospective member would want 40% of any reward the group would earn (implying that they were giving up nothing to join the group, and in fact wanted 15% more than they were have under equal division).

Manipulation of sanctioning system. In the *sanctions present* condition, participants were told that a sanctioning system (termed a "punishment system" in the experimental text) would be in place for the remainder of the task, which would penalise the group member who answered the least number of puzzles in a block, and deduct 3 points from the total earnings they had already acquired in the task. In the *sanctions absent* condition the participant was given no extra information and simply moved onto the next section of the experiment.

Dependent measures

Participants then had to cast their vote as to whether this individual should be allowed into the group by clicking on the appropriate button. Participants then moved on to the result of the group's "vote" on whether to admit the candidate; in fact the candidate was always granted entry. Participants were then told that the experiment would continue with this candidate answering puzzles for the group. Participants then completed one more block of trials (with the candidate ostensibly contributing) before receiving a message informing them that the experiment had terminated early; this was in order to remove end-game effects.

Participants then filled out the post-experimental questionnaire. This consisted of manipulation checks which examined participants' perceptions of the candidate's commitment to the group, and items to assess the participants' perceptions of the candidate's trustworthiness (namely, "were you concerned that the newcomer might not pull their weight?", "would the newcomer exploit you if you were to work together again?", and "how much did you trust the new member of the group?" all given on a 6-point Likert scale, and coded so that a higher response score indicated a

greater feeling of trust). On completion of this questionnaire, participants were debriefed, paid, and dismissed.

Results

Manipulation checks

In order to check the success of our manipulation, a 2 (commitment high/low) x 2 (sanctions present/absent) ANOVA was performed on participant's answer to the question "how committed was the newcomer?" (given on a 6-point Likert scale with a higher response score indicating greater commitment). This yielded a significant main effect for commitment, F (1, 75) = 18.27, p<.001, indicating that in the high commitment condition, participants viewed the prospective member as more committed (M = 3.75, SD = .67) than in the low commitment condition (M = 3.05, SD = .79). There was no main effect of sanctions, F (1, 75) = .84, *ns*, nor a significant interaction, F (1, 75) = 2.33, *ns*.

Participants were also asked in the post-experimental questionnaire whether a sanctioning system had been present in the experiment. Those who failed to correctly identity sanctions' presence or absence where removed from subsequent analysis.

Admittance of the candidate

Overall, participants were more likely to grant entry than refuse entry to the candidate, with 58% being admitted.

To test Hypotheses 1 and 2, a logistic regression was performed using commitment of the candidate (high/low) and sanctions (presence/absence) as predictors and entry decision of the participants as the dependent variable. Initially, gender was also used as a factor but was found to have no influence; therefore male and female participants were collapsed into a single group, $\chi 2$(1, N=82) = 2.81, *ns*. The acceptance percentages for each of the four conditions are displayed in Table 1.

There was a significant main effect for commitment, $\chi 2$(1, N=82) = 24.07, p<.001. As predicted in Hypothesis 1, high committed individuals were admitted significantly more often than low committed individuals. There was no effect of sanctioning system, $\chi 2$(1, N=82) = .28, *ns*. Furthermore, the predicted interaction between commitment and sanction was non significant, $\chi 2$(1, N=82) = .52, *ns*.

Table 1

Rates of admittance for candidates according to commitment level and presence or absence of a sanctioning system

		Sanctioning system		Totals
		Absent	Present	
Commitment	High	80	90	85
level	Low	33.3	33.3	33.3
	Totals	56.1	61.0	

Note. Figures given as percentages within conditions.

Mediation of admittance decisions by trust

In order to ascertain whether the effect of commitment on participants' decisions regarding the candidate were mediated by trust (Hypothesis 1a), a mediational analysis was performed in accordance with the criteria set out by Baron and Kenny (1986). To do this, a measure of trust towards the candidate was calculated by averaging the scores on three items in the post-experimental questionnaire relating to trust ("were you concerned that the newcomer might not pull their weight?", "would the newcomer exploit you if you were to work together again?", and "how much did you trust the new member of the group?" all given on a 6-point Likert scale, and coded so that a higher response score indicated a greater feeling of trust towards the candidate; *M*=3.61, *SD*=.85, *alpha*=.74)

The three linear regression equations as detailed in Table 2 where then carried out in accordance with Baron and Kenny which all yielded significant relationships, thus fulfilling the first criteria for mediation.

Table 2

Linear regression analysis using IV (commitment level), mediator (trust level) and DV (entry decision)

Predictor	Outcome variable	B	t
Commitment of candidate	Trust level of participant	.55 (.18)	3.05*
Commitment of candidate	Entry decision of participant	.52 (.09)	5.51*
Trust level of participant[a]	Entry decision participant	.24 (.05)	4.47

Note. Trust level arrived at by calculating a mean of items "were you concerned that the newcomer might not pull their weight?", "would the newcomer exploit you if you were to work together again?", and "how much did you trust the new member of the group?" given on a 6-point Likert scale and coded so a higher response score indicated more trust. Numbers in brackets indicate Standard Error.

[a] indicates this variable was included along with the main independent variable of commitment in the regression analysis. * = $p<.05$.

To fully establish mediation, the third regression equation must also show a significant drop in the contribution of the independent variable compared with when it is included alone (with B =0.39 (SE=.09) and B = 0.52 (SE=.09) respectively). A Goodman test (Goodman, 1960), carried out to ascertain whether this was the case, produced a significant result (*Goodman test statistic* = 2.54, $p<.05$), thus supporting the mediation model. Therefore, there was some support for the idea that commitment information affected the entry decision because of it impact on the perceived trustworthiness of the prospective member. However, as the mediator was measured *after* the dependent variable it is possible that participants engaged in a form of post-decision rationalisation. That is, we cannot rule out the interpretation that participants' entry vote may have gone on to influence how trustworthy they rated the candidate (so that they appeared consistent) rather than vice versa. As a result, some caution should be exercised when considering this analysis; although consistent with possibility of mediation, we cannot conclusively prove that commitment is mediated by trust based on this data.

Conclusions

Experiment 1 found support for both hypothesis 1a and 1b. Participants were more likely to admit a candidate that expressed high commitment towards the group compared with a candidate that expressed low commitment. Furthermore, some

support was found for the idea that this relationship was mediated by the trust felt towards the candidate. However, no support was found for hypothesis 2. The presence of a sanctioning system did not increase the likelihood of a low committed candidate gaining entry; indeed, sanctions appeared to have no influence on participants' choices regarding the candidate. Why is this the case?

A possible explanation for the ineffectiveness of a sanctioning system may be that is was perceived as rather draconian and unfair as it would always be levelled at the lowest contributing member. So, although a group member may have a high *absolute* contribution (e.g. 8 out of 10 puzzles), they may still be penalised if they are *relatively* low scoring (e.g. if all other group members score 10 out of 10). Because of this perceived unfairness, participants may have failed to fully embrace sanctions as a beneficial aspect of the group. Instead, they may have become alienated by it and failed to factor it into their decisions regarding the candidate.

A second explanation may be that the implementation of sanctions may not have been severe enough for existing members to be convinced of its utility in deterring free-riding. If the threat imposed by the sanctioning system is not perceived as being sufficient to induce cooperation in new members, then its use in decisions regarding candidates is rather limited. Participants therefore may have focused entirely on commitment information and considered the presence or absence of sanctions as essentially defunct.

Despite these problems, it seems logically compelling that, if constructed correctly, the presence of sanctions should be useful in convincing participants that it will induce cooperation in new members. One of the aims of the next experiment was to address some of these issues and ascertain whether sanctions could indeed be effective in participant decision making. Would making the sanctioning system appear more procedurally fair (to increase its perceived benefit) and more severe (to increase its perceived effectiveness) cause it to be influential in the group's membership choices for the candidate?

Another aim of Experiment 2 was to investigate the influence of *unsecured* commitment displays on group's membership choices. Recall that unsecured commitment relates to an individual indicating the relative insignificance and unimportance of themselves compared with the group as a whole. In comparison, *secured* commitment studied here relates only to the giving up of material goods. It was of interest in the following experiment therefore to examine whether this form of

commitment would be as influential in participants decisions regarding the candidate's membership to the group.

CHAPTER FOUR: UNSECURED COMMITMENT AND RESOCIALISATION IN MEMBER ACQUISITION

Introduction

In the previous experiment, we have examined a form of commitment known as *secured* commitment. Here, candidates for membership indicate they are willing to give up a portion of material goods in order to join the group. This commitment is termed "secured" as its stipulations are enforced via a third party – in this case the experimenter who is in control of the experiment. However, a second form of commitment is also defined in the literature; that of *unsecured* commitment (Nesse, 2001; also see Kanter, 1968; Lois, 1999). Here, rather than relinquishing tangible resources, individuals surrender their own autonomy and significance in place of the importance of the group as a whole. A common manifestation of this is the espousing of pro-group attitudes and indicating the relative magnitude of the group compared with a prospective member's individual existence.

An interesting aspect of unsecured commitment is its relative persuasive strength compared with secured commitment. Arguably, this type of commitment may be seen as weaker initially as by its very nature it is not anchored to a solid incentive structure. Therefore, it may difficult for individuals to cognitively represent its worth which may reduce its usefulness as a selection tool. However, it may also give rise to more enduring ties between group members if it can be sustained. Buss, (1999) has argued that forms of intangible exchanges such as praise and promises offered by unsecured commitment are important for the formation of *friendships* between individuals and it is these links which may offer powerful evolutionary advantages over other conspecifics (cf. Clark, 1981; McFarlane Shore, Barksdale, & Shore, 1995; Yamagishi & Cook, 1993;). Material exchanges by contrast (such as secured commitment) may often characterise a weak, superficial relationship between individuals. Therefore, it is difficult to envisage the relative strength of unsecured and unsecured commitments.

The primary aim of this experiment then is to empirically examine the use of unsecured commitment in candidate recruitment. In particular, it was of interest to

examine whether the use of unsecured commitment would give rise to similar contrast in entry rates between high and low committed candidates seen in Experiment 1. Would commitment displays based on a more affective conceptualisation be as useful in the recruitment of candidates?

It was also though that if unsecured commitment was effective, it would again be through the mediation of commitment by trust. That is, if participants perceived the candidate as high in commitment, they would feel confident that individual was benevolently disposed to the group and grant them entry. Therefore, the hypotheses for this experiment were essentially the same as in Experiment 1: that a candidate showing high commitment would be more likely to be granted entry than a low committed candidate; and that this relationship would be mediated by the trust the group had in the candidate making contributions towards the group.

A second aim of this experiment was to examine whether the presence of sanctioning system might have influence on participants' decisions regarding newcomers. Recall in the previous experiment, sanctions had no effect on participants' choices. A probable explanation for this was that its autocratic nature alienated group members and caused them to miss its benefits for the group. Furthermore, it was also possible that its relatively lax nature failed to adequately assure participants that free-riding would not occur.

To attempt to address these issues, some adjustments were made to way in which the sanctioning system operated. Firstly, in this experiment, sanctions were only applied to group members (including the candidate) who performed below a certain level; i.e. those that failed to answer a pre-determined number of puzzles. This should increase the perceived procedural fairness of the system, something that has been deemed important by Trevino (1992) in convincing groups of the usefulness of disciplinary procedures. Secondly, the severity of the sanctioning was greatly increased. It was hoped that by doing this, participants would feel greater confidence in sanction's ability to induce cooperation, and would be more likely to consider its effectiveness when making decisions regarding new members. The hypothesis relating to sanctions here were again the same as in the previous experiment, namely that trade-off may occur between commitment and sanctions. That is, because sanctions should act to increase a group's confidence of newcomer contributions, the commitment of a new member should matter less its presence. Accordingly, we expected that participants would be more likely to admit a low committed candidate

in the presence of sanctioning system than in its absence. By contrast, the entry chances of high committed candidates would be unaffected, as the group would already feel confident of their contributions.

Method

Participants

Sixteen males and 30 females were recruited from the University of Southampton Psychology Department participant pool in return for either course credit or payment of £5. Participants' mean age was 21.85 years (*SD* = 3.34) with a range of 18 to 31 years. It was ensured that none of the participants in Experiment 1 were involved in the second study.

Design

The same 2 (commitment high/low) x 2 (sanctions absent/present) design as the previous experiment was used, with dependent variable again being the participants' decisions regarding the candidates entry to the group. Measures of trust were also taken for mediational analyses.

Procedure and materials

The procedure for this experiment was identical to the version of the basic paradigm (described in Chapter Two) that was used in Experiment 1. In this version, changes were made to the manipulations of commitment and sanctions in order to reflect the hypotheses of this chapter.

Manipulation of group commitment. In this study, candidates displayed a form of commitment which indicated the giving up of autonomy and personal significance rather than of monetary incentives as in Experiment 1. To manipulate this, participants were told that they would be presented with text that the candidate had written for the experiment they had just completed, which pertained to their orientation towards groups and group tasks, in general. For the *high commitment* condition, participants were presented with the following:

"My main course of action in the task is to try and look at the group's goals and go with that. In an experiment like this I think my own aims are not as important

as the group's and so you should try and do what's best for the group. Therefore I'll be more concerned with how well the group does than with how well I do."

For the *low commitment* condition, participants were presented with text which expressed the opposite:

"My main course of action in the task is to try and look at my own goals and go with that. In an experiment like this I think the group's aims are not as important as my own and so you should try and do what's best for yourself. Therefore I'll be more concerned with how well I do than with how well the group does and I'll only put in effort towards the group task if is serves me or if I'm forced to."

Manipulation of sanctions. The sanctioning system was introduced somewhat differently than in Experiment 1. Firstly, participants were told at the start of the experiment that in the second half of the task sanctions may be present, so it would not come as a surprise to the participants at the later stages of the task. It was also of importance to alter sanctions such that they were perceived more as a positive aspect of the group and a powerful deterrent to free-riding. Accordingly, participants were informed that sanctions would be invoked only on group members that contributed below a certain amount; less than 5 puzzles per block. The nature of the system was also altered to make it more severe; in this experiment, anyone subjected to sanctions would lose *all* the points they had accrued in the previous rounds of the experiment.

Dependent measures

These were the same as Experiment 1 with participants' choices regarding the entry of the candidate as the main dependent variable. The post experimental questionnaire also contained manipulation checks for the perceived commitment of the candidate as per the previous experiment, and ancillary measures of trust for the mediational analysis

Results and Discussion

Manipulation checks

A 2 (commitment high /low) by 2 (sanctions absent/present) ANOVA was performed on responses to the item "how committed do you think the newcomer was to the

group's cause" (1 = very weakly, 6 = very strongly). This yielded a significant main effect of commitment, F (1, 42) = 8.37, p<.05, indicating that participants were perceiving the commitment levels of the candidate in the way we had planned (with M = 3.92, SD = .72 for high committed candidates and M = 3.18, SD = .94 for low committed candidates). There was no main effect of Sanctions, F (1, 42) = .73, *ns*, nor a significant interaction, F (1, 42) = 2.76, p=.10.

Participants were also asked in the post-experiment questionnaire to indicate whether a sanctioning system had been present or absent during the latter half of the task. Any participants who answered this item incorrectly were then removed from subsequent analysis.

Admittance of the candidate

Overall, participants were much more likely to grant than refuse entry to candidates, with 85% being admitted to the group. To test the effects of commitment and sanctions on participant's choices regarding the entry of the candidate, a logistic regression was performed using commitment of the candidate (high/low) and sanctions (presence/absence) as predictors and entry decision of the participants as the dependent variable. An initial analysis using gender yielded no main effects or interactions and so was collapsed into a single category and discarded from further analysis, $\chi 2$ (1, N=46) = .77, *ns*.

The main analysis yielded again a significant main effect of commitment, which indicated that high committed candidates were more likely to be admitted than low committed candidates, $\chi 2$ (1, N=46) = 5.23, p<.05. However, there was no main effect of sanctions, $\chi 2$ (1, N=46) = 1.10, p=.29, nor a significant interaction, $\chi 2$ (1, N=46) = .66, *ns* (see Table 3).

Table 3

Rates of admittance for candidates according to commitment level and presence or absence of a sanctioning system

		Sanctioning system		Totals
		Absent	Present	
Commitment	High	100	92.3	95.8
level	Low	80	66.7	72.7
	Totals	90.5	80	

Note. Figures given as percentages within conditions.

Mediation of admittance by trust

As in Experiment 1, Baron and Kenny's (1986) criteria for evidence of mediation were applied to the results of this experiment. The same three items from the post-experimental questionnaire as Experiment 1 were used to calculate group member's trust of the candidate *(alpha*=.77). Table 4 yields the outcomes from these regression calculations.

Table 4

Linear regression analysis using IV (commitment level), mediator (trust level) and DV (entry decision)

Predictor	Outcome variable	B	t
Commitment of candidate	Trust level of participant	.79 (.27)	2.87**
Commitment of candidate	Entry decision of participant	.23 (.10)	2.25*
Trust level of participant[a]	Entry decision participant	.20 (.04)	4.50**

Note. Trust level arrived at by calculating a mean of items "were you concerned that the newcomer might not pull their weight?", "would the newcomer exploit you if you were to work together again?", and "how much did you trust the new member of the group?" given on a 6-point Likert scale and coded so that a higher responses score indicated more trust. Numbers in brackets indicate Standard Error.
[a] indicates this variable was included along with the main independent variable of Commitment in the regression analysis.* = p<.05.** = p<.01.

The significant relationship between each of these predictors and outcome variables fulfilled Baron and Kenny's first criteria for mediation. Furthermore, in this analysis the contribution of commitment (in the original analysis: B=.23, SE=.10) actually become non-significant when included with the trust measure as covariate (with B=0.00, SE=.09), supporting the presence of mediation by trust of the commitment-selection relationship without further analysis being required. However, as with Experiment 1, because participants responded to the mediational items *after* they responded to the dependent variable we cannot with complete certainty report the presence of mediation. Rather, we simply conclude that this analysis strongly suggests participants' decisions regarding candidates are mediated by their trust of those candidates.

General Discussion for Secured and Unsecured Commitment

The primary aim of Experiments 1 and 2 was to examine if displays of group commitment by candidate members would influence decisions regarding their entry by group members. In addition, we expected that commitment information would be less influential in the presence of a sanctioning system, as the latter would assure the group that the candidate would cooperate with group goals, making the former less of a concern.

The results of this research produced support for our first hypothesis. High committed newcomers were significantly more likely to be admitted to the group, and, in line with the free-rider hypothesis, this effect appeared to be mediated by the trust they felt towards the candidate. Furthermore, this effect was found for both types of commitment that were investigated. Whereas in Experiment 1, candidates' commitment was secured by them making a material sacrifice to enter the group, in Experiment 2 they expressed their group commitment through an expression of the significance of the group, and the relinquishing of their own importance (recall the distinction between secured and unsecured group commitment cf. Frank, 2001; Nesse, 2001).

Differences between types of commitment

That both secured (Experiment 1) and unsecured forms of group commitment (Experiment 2) influence selection decisions does not imply that their impact is equally strong. In fact, the differences in admittance rates between high and low committed candidates were much larger in Experiment 1 (40%) than in Experiment 2 (18%). A likely explanation for this is that secured group commitment is easier to enforce and more reliable than unsecured commitment. Commitments secured contractually cannot be easily reneged upon; unsecured commitment, by contrast, offers no such guarantee. Firstly, group members can not be assured that the candidate is not deceiving them regarding their intentions in order to gain membership. Secondly, there is no certainty that commitment will remain consistent during their time with the group (Moreland & Levine, 1982). However, unsecured commitment may, in the right circumstances, lead to more enduring bonds between individuals. Clark (1981) and Buss (1999) have both indicated that friendships are propagated by the formation of non-materialistic bonds. Indeed, the use of tangible exchanges in interactions has even been shown to undermine the formation of close

emotional attachments between individuals. Relationships tied by unsecured commitment may therefore be more durable, as they can be sustained even in the absence of tangible goods. The case for the persuasiveness of unsecured commitment indicates the possibility that the situational constraints influence to what extent forms of commitment are useful. As these experiments were short term interactions, the primary incentive for participants was to gain monetary rewards; therefore, expressions of unsecured commitment may have been of little value. It is possible however that in a more long term, more meaningful interaction, unsecured commitment would have emerged as more powerful cue to group members.

Are sanctions an effective tool when acquiring new members?

As for our second main hypothesis, we found no support for the idea of a trade-off between selection and sanctioning in either experiment. That is, the presence of a sanctioning system did not increase the likelihood of acceptance for low committed candidates compared with when it was absent. There are a number of reasons this may have occurred. Firstly, the introduction of the sanctioning system may have alerted participants to the possibility of free-riding within the group as it signals that a mechanism is necessary to ensure cooperation (cf. Tenbrunsel & Messick, 1999). This in turn creates fear and distrust within the group which may deter members from admitting new members. In a similar vein, there is evidence to suggest that the perception of threats by a group causes rigidity amongst members and their behavioural repertoires (Staw, Sandelands, & Dutton, 1981). Therefore, if the presence of sanctions does indeed alert members to the possibility free-riding (and thus threatens the stability of the group), this would attenuate their desire to add a novel factor to their ranks in the form of a new member.

Second, the presence of a sanctioning system makes group members more egocentric because they start to see the task in terms of how well they can do for themselves rather than what they can do to help the group (Fehr & Rockenbach, 2003). Thus, the admission of a newcomer is seen as a threat to their individual rewards, again reducing their desire to grant entry to candidates.

Third, the ineffectiveness of sanctions in both experiments may indicate that the productivity of the group is not the primary concern of group members (or certainly not their only concern), and that they may not view their situation as rationally as Social Exchange Theory suggests. Regardless of whether sanctions will

induce cooperation in a low committed member, participants may simply not wish to grant entry to an individual who professes such little commitment towards the group. Kerr (1983) reports that members of a dyad will be willing to sabotage their own success in an interdependence situation in order to prevent a free-riding partner from gaining a reward. Therefore, participants in this task may not wish to grant entry to an individual who will only assist them because of the presence of a sanctioning system in order to avoid offending their own sensibilities of a "good group member".

Conclusions and directions for Experiment 3

The main conclusions drawn from these two experiments are that firstly, although logic suggests their usefulness for member acquisition, the presence of resocialisation (in the form of sanctions) did not affect group member's decisions to grant entry to the candidate. Secondly, commitment information appears to increases group members' perceptions of candidate trustworthiness, and is therefore highly influential in decisions regarding candidate entry.

Having examined a fairly simplistic group situation, our aim in the next experiment was to examine some more complex member acquisition scenarios. For example, how would information that may be subjected to certain biases such as a candidate's *reputation* influence members' decisions? If participants are given information that may contain an element of subjectivity, to what extent do they use this information when deciding whether or not to admit the candidate?

As well as this, we are also interested in how more relational variables may influence group's decisions to admit newcomers. Recall that in Chapter One, we describe how social dilemma solutions which alter the ways in which members interact with one another can increase levels of cooperation within the group. One such mechanism may be the group's use of *socialisation* which describes how new members are indoctrinated into a group through cultural transmission. If group members are informed that the candidate will undergo socialisation if they are granted entry, how will this affect their decisions regarding the candidate's membership?

CHAPTER FIVE: REPUTATIONS AND SOCIALISATION IN THE ACQUISITION OF NEW MEMBERS[4]

Introduction

A primary aim of this chapter was to examine a more elaborate selection method that can be used when recruiting new members; namely the use of a candidate's *reputation* as an indicator of their suitability. A reputation can be defined as socially shared information that indicates the likelihood of eliciting (cooperative) behaviour from a potential interaction partner (cf. Whitmeyer, 2000). "Cooperative" can be placed in parenthesis due to the fact that reputations can realistically relate to *any* behaviour salient to an individual. However, in the scope of this paper we are interested primarily in the probability of eliciting cooperative behaviour from a prospective new member in the form of contributions towards the group's goals.

A typical manifestation of reputation use is to simply ask third parties for their opinion regarding the candidate for membership. For example, in organisational recruitment, Human Resources may obtain references from an individual's previous employer in order to decide whether they will be an asset to the firm. The ability to attend to reputations offers a tremendous advantage as it allows a group to determine an individual's suitability as an interaction partner *without the cost of interacting with them directly* (Emler, 1990). That is, if we were unable to glean any information regarding an interaction partner prior to engaging in collaboration, the only way we can discover their orientation towards us is to interact with them and appraise the consequences. If that person responds favourably, we have benefited; if they respond unfavourably, we have incurred a cost. However, by soliciting salient information beforehand in the form of that person's reputation, we can avoid this cost by discovering the likelihood of that individual responding favourably or unfavourably prior to interacting with them. Indeed, it can be suggested that there is an *adaptive advantage* in being able to acquire reputational information which may be an extension of the "cheater-detection" mechanisms put forward by evolutionary theorists (e.g. Bowles & Gintis, 1996; Cosmides and Tooby, 1992) and has grounding

[4] Chapters Five and Six have been submitted for publication as " Stiff, C. & Van Vugt, M. (submitted). Reputations in the acquisition of new group members: effects of commitment, information source, and socialisation" and as such may contain some replication of the material in the previous Chapters.

in the propensity for humans to "gossip" about others (Sloan Wilson, Wilcynski, Wells, & Weiser, 2000).

The content of reputations

When considering the acquisition of reputations, a key question is: what is the *nature* of the information used in reputations? One highly salient reputational cue may be an individual's *commitment* towards a group. Commitment can be defined as "an act of signal which indicates the giving up of options in order to influence behaviour" (Nesse, 2001, pg 13). For example, an employee joining an organisation will sign a contract relinquishing the option to work for another employer to indicate his commitment to that job. Previous research has shown that commitment can increase the likelihood of an individual internalising a group's values, working for the good of the group, and being motivated to remain in the group (Kanter, 1965; Mayer & Schoorman, 1992; Meyer & Allen, 1991; Moreland & Levine, 1982; Rusbult, 1980); therefore it is a highly desirable trait to be found in potential group members.

As we have seen from Experiments 1 and 2, information that is diagnostic of a candidate's commitment appears to be persuasive in group members' decisions regarding their entry. Therefore, it seems logical to assume that any reputational information that indicates the commitment of a candidate will also be influential in group members' membership choices. One of the aims of this experiment then was to find support for this idea, and to examine the extent to which reputational cues are important in the acquisition of new members.

A concern that was raised with our operationalisation of commitment in Experiments 1 and 2 was that it was difficult to disentangle decisions the group made based on commitment issues and those made on with the aim of maximising personal or group rewards based on the behaviour of the candidate member. That is, in the previous experiments, participants are presented with individuals whose reported commitment will have direct influence on their own pay-offs, through either giving up a portion of their public good (Chapter Three) or by placing the groups concerns above their own (Chapter Four). Therefore, it is hard to ascertain where participants are choosing to admit high committed candidates based on the desirability of high commitment and the positive group-orientated behaviour it implies, or simply because by doing so they will gain a greater share of the public good and be better off in a purely fiscal sense.

To rectify this issue, we turn in this study to an operationalisation of commitment which emphases the candidate's commitment through the giving up of options (as per Nesse's [2001] definition) *outside* of the immediate situation. Through this, we can examine whether reputational cues conveying this sort of information are still an effective selection tool when its manifestation does not have direct implications on participants' pay-offs.

Other reputation considerations: the influence of source

In the examples above, we have only considered reputations that are transmitted via third parties. We have termed this an *acquired reputation* due to the fact that it is obtained through an individual's own interactions with the subject of the information. This subject therefore *acquires* the reputation without their own direct involvement in its formation. Consider the case of employee references: this information is the former employer's personal opinion of the employee which is written without the latter's participation. However, it is also possible for an individual to *directly* transmit reputational information relating to themselves, something we term a *projected reputation.* That is, a candidate may attempt to transmit information regarding their desirability to group members in order to convince them of their suitability for membership. So, when applying for a job, an individual will supply an employer with a CV which is intended to promote their skills and abilities.

We can posit that these types of reputations will differ in terms of the perceived accuracy; namely, that a projected reputation is likely to be seen as more unreliable than an acquired reputation. This is due to a number of reasons; firstly, projected reputations are difficult to verify as they are based on an individual's own opinion of themselves. Secondly, this verification problem means that those attending to projected reputations will find it hard to ascertain whether an individual is engaging in some form of strategic self presentation (Jones & Pittman, 1982). In the case of newcomer recruitment, it is highly likely that candidates will indeed utilise impression management tools as they will be motivated to portray themselves in a positive fashion in order to gain entry. If existing group members realise this – and previous research indicates that it is highly probable they will (cf. Eagly, Wood, & Chaiken, 1978; Fragale & Heath, 2004) – then the veracity of any projected reputational information they receive is called into question. It is likely therefore that group members will use projected reputations to a lesser extent than acquired reputations

when acquiring new members due to the bias the former may contain. In fact, it is possible the projected reputations that are intended as a promotional tool of potential group members will aversively affected their chances of entry compared with if the same information was given via an acquired reputation. This is because cultural norms in Western society tend to preclude self-aggrandisement and bragging. Accordingly, a candidate who is attempting to convince a group of their suitability for membership may inadvertently *reduce* their chances of gaining entry. A second aim of this experiment therefore was to examine how different reputation sources may influence group members' decisions.

The use of socialisation in member acquisition

It is also possible that other aspects of the recruitment process may alter the importance of reputational information. One such example of this may be if a new member undergoes *socialisation* subsequent to their entry. According to the Group Socialisation Model, socialisation is when "the group attempts to provide the newcomer with the knowledge, ability, and motivation that he or she will need to play the role of a full group member" (Moreland and Levine, 1982, pg 163). Van Maanen (1976) similarly refers to socialisation as "the process by which a person learns the values, norms, and required behaviour which permit him to participate as a member of the organisation" (pg67). Socialisation then is not simply a form of knowledge transfer. Rather, it should imbibe a member with the *motivation* and *desire* to contribute towards the group.

Several techniques are open to groups to implement socialisation; the use of training programs or the appointment of mentors are common methods of placing a new member in an environment where they can readily be exposed to group norms and values, as well as important skills and knowledge (Van Maanen, 1976, 1978). However, not all socialisation practices are pleasant for the newcomer. Aversive initiation ceremonies are common methods by which newcomers can be socialised into a group, usually when group cohesion and identity are favoured over the possession of specific skills (Aronson & Mills, 1958). As an initiated individual will have made a large investment in the group by undergoing these experiences, they will feel inclined to feel positively about the group's values and goals in order to feel that their membership was worth the price paid. Consequently, commitment is increased in the newcomer. A similar form of socialisation practise is in the shunning of new

members in order to emphasise their insignificance in the face of the group as a whole (Lois, 1999) and increase their pro-group attitudes as they seek to prove themselves.

Regardless of its form, socialisation can be an effective method of eliciting cooperation from newcomers. Furthermore, the presence of socialisation may become a *proxy* for commitment in that it increases the new members' willingness to exert themselves on behalf of the group subsequent to their entry. Therefore, socialisation within a group should act to assure members that a newcomer will contribute as its presence will provide that individual with the motivation and skills to perform on behalf of the group regardless of a candidate's original level of commitment.

Socialisation is similar in many ways to resocialisation in that they both involve educating group members in what is expected of them whilst operating within the group. Crucially however, socialisation usually takes place straight after entry has been granted and before any deviation has been exhibited by the newcomer. Therefore, it is overall a more optimistic group mechanism as it prepares the new member for their membership, unlike resocialisation which essentially reprimands them for divergence and signals to the group that something within their ranks is malfunctioning. Recall that in Experiments 1 and 2, resocialisation had little effect on participants' choices regarding candidates, and it was postulated that this was because the draconian nature of the resocialisation practice used alienated group members rather than allowing them to embrace it as a positive aspect of the group. Following from this, it is thought in this experiment that socialisation *will* be influential as it is less punitive, more nurturing, and therefore a more positive force for the group.

However, a distinction is made in this experiment between participants' feelings of *trust* and *assurance* (Yamagishi &Yamagishi, 1994). Trust relates to the perception of an individual's benevolent disposition towards the group which increases members' confidence that the individual will contribute towards the good of the group. Assurance by contrast relates to group members' confidence that candidates will contribute based on some structural influence within the group, and not because that person is positively orientated towards the group's outcomes. This delineation is made due to the fact that the presence of socialisation may not necessarily increase participants' trust towards candidates. Rather, they may perceive it as a group-based artefact which compels candidates to contribute but does not make them more positively disposed to the group. Therefore, this experiment examines

UNIVERSITY OF SOUTHAMPTON LIBRARY

both participants' trust of the candidate, and their assurance that candidates will contribute to assess to what extent socialisation influences these feelings.

Summary and hypotheses for study

Our first aim for this experiment is to replicate the effects of commitment seen in Experiments 1 and 2; namely that groups are more likely to grant entry to high committed candidates than low committed candidates. Our second was to examine whether acquired and projected reputations affected group members' choices in different ways. To examine the former, participants were supplied with information that was conveyed via an experimenter who was observing the candidate in another task. For the latter, information was conveyed by the candidate themselves. It was thought that, as the acquired reputational source would most likely be seen as reliable, the information they conveyed would be most influential in participants' decisions. By contrast, because a projected reputation may contain elements of impression management and bias, it was thought that this information would be less influential in participants' decisions.

Our third aim in this experiment was to examine the use of socialisation in member recruitment, and to see whether its presence would increase the likelihood of candidate entry. Formally then, our hypotheses are:

Hypothesis 1: Group members will be more likely to admit high committed candidates compared with low committed candidates

Hypothesis 2: Projected reputational information will be less influential in group decision making due to its perceived lack of objectiveness and/or inherit bias.

Hypothesis 3: The presence of socialisation within a group will increase a candidate's chances of entering the group regardless of their reputation

Method

Participants

Thirty-one males and 65 females Southampton University undergraduates were recruited for this study and compensated either with course credit (for psychology students) or £5 (for non-psychology students). Participants' mean age was 20.52 years (*SD*=2.85) with a range from 18 to 34 years.

Design

Three independent variables were examined in this study. Firstly, information relayed to participants indicated that candidate's were either high or low in commitment towards the group. Secondly, participants were informed that a socialisation process was either present or absent within the group. Finally, information that was relayed to the group came either from an experimental administrator or from the candidate for entry themselves. These variables were presented orthogonally forming a 2 (commitment high/low) x 2 (socialisation absent/present) x 2 (source experimenter/candidate) design. Participants were randomly assigned to one of these 8 cells, and each cell consisted of 12 people.

The main dependent variable in this study was each participant's decision regarding the entry of the candidate to the group. Measures of trust directed towards the candidate and participants' perceptions of their information source were also recorded.

Procedure

A full explanation of the experimental paradigm used here can be found in Chapter Two. In this version, participants completed 4 blocks of puzzles prior to the introduction of the candidate, in which they were successful in receiving the public good 50% of the time. Participants were then presented with the opportunity to admit another person to the group to assist them with their efforts in reaching a higher level of productivity, and were supplied with information to assist them with their decision regarding membership.

Manipulation of commitment and source. In all conditions, participants were informed that the candidate had been working on another task in which they could

earn money and had now been asked if they wished to join the participants' group. Commitment was then operationalised in terms of how much money the candidate could earn if they stayed in their current task compared with working with the participants' group, thus mapping onto Nesse's (2001) definition of commitment as a giving up of options. In the high commitment condition, participants were informed that the candidate could earn much more money in their current task, but had chosen to work with the participants' group regardless. In the low commitment condition, participants were informed that the candidate could earn little money in their current task, and could earn much more in the participants' task. Thus, the candidate had given up valuable options (or not) to indicate their commitment (or lack of therein) to the group.

In addition, the reliability and objectiveness of the information participants received was altered by supplying it either from the candidate themselves, or from the experimenter who had been monitoring the candidate in their own (fictitious) task. Therefore, participants were – according to the condition – supplied with one of four versions of text relating to the candidate's commitment, each of which are given below.

Experimenter as source and candidate high committed

"The candidate has done very well in the task so far in terms of earning money. I think they could earn a lot more money if they continued in their current task. But he has made it clear that he wants to give up his earnings by joining your group. I believe that this is true"

Experimenter as source and candidate low committed

"The candidate has not done very well in the task so far in terms of earning money. I don't think they would earn a lot of money if they continued with this task, certainly not compared to what they would get if they joined your group. The candidate does not give up much by joining you group. I believe that this is the reason why he wants to join your group"

Candidate as source and candidate high committed

"I have done very well in the task so far in terms of earning money. I think I could earn a lot more money if I continued in my current task. But I want to give up my earnings and join this new group."

Candidate as source and candidate low committed

"I have not done very well in the task so far in terms of earning money. I don't think I would earn a lot of money if I continued with this task, certainly not compared to what I would get if I joined this new group. I'm not giving up much to join the new group; that's the reasons I want to join."

Manipulation of socialisation. Subsequent to the supplying of commitment information, participants were then informed that it may be possible for the candidate to be trained at the group task in order to provide them with the skills and motivation needed to contribute sufficiently; i.e. they could undergo *socialisation* in order to enhance their cooperation with group goals (although the actual term "socialisation" was not used in the experimental text). Participants were told that the individual who would be nominated to carry out this training would be the group member who had answered the highest number of puzzles in the task so far over the four blocks. This proviso was included to ensure that participants believed the candidate would be receiving sound advice regarding the task. Furthermore, the individual chosen to train the candidate would also be able to monitor the candidate's contributions should they be admitted to make sure they contributed a sufficient amount.

Participants in all conditions were informed that this socialisation process may be present, and were then told that the computer would randomly decide if indeed it would be implemented or not. In the socialisation present condition, participants were subsequently informed that this training and monitoring opportunity would be available and the chosen member would be asked to work with the candidate whilst the remaining group members answered some question regarding their feelings towards the candidate based on the information they been supplied with so far. The group member training the candidate would then rejoin the group before the start of the next block, along with the candidate should they be granted entry, and would subsequently monitor the candidate's progress throughout the remainder of the task.

In reality, all participants were lead to believe that another group member would be training the candidate, and all moved onto the next portion of the experiment. This section began with a recap of all the information participants had received thus far relating to the commitment of the candidate, the source of the commitment information (implied by the wording of commitment information as either "the experimenter said..." or "the candidate said..." according to condition), and whether socialisation would be implemented or not. Following this, participants then made their ultimate choice regarding whether they wished to vote in favour of admitting the candidate to the group.

Ancillary measures were then presented which consisted of participants indicating their agreement with reasons behind their membership decision and their trust towards the candidate (namely "I think the candidate has the group's best interests at heart", "I think the candidate will exploit me and the other group members" and "I trust the candidate", given on a 6-point Likert scale with responses ranging from strongly disagree to strongly agree). An item was also included to ascertain the *assurance* they felt regarding the candidates membership to the group ("there is nothing about the set-up of the remainder of the task that makes me confident the candidate will contribute towards the group", given on a 6-point Likert scale with responses ranging from "strongly disagree" to "strongly agree") in line with Yamagishi and Yamagishi's (1994) distinction which it was postulated may be influenced by the presence of socialisation. Manipulation checks were also included in which participants rated how committed they perceived the candidate to be (indicated on a 6-point Likert scale with a higher score indicating greater perceived commitment). Participants then moved onto the result the votes regarding the candidate's membership

In the socialisation absent condition, participants were simply informed that the training and monitoring opportunity would not be available, and that the task would continue as previously. They then moved onto the dependent variables section as detailed above.

Regardless of their votes, participants were then informed that the group had voted in favour of granting the candidate membership. The group then completed one final block of trials – ostensibly with the candidate contributing – before being informed that the experiment was to be halted due to time constraints. Participants

then filled out a post-experimental questionnaire. As well as standard manipulation checks regarding the purpose of the task and whether any aspects appeared false, participants were also asked to what extent they had based their membership decision on the information they had received (given on 6-Likert scales with a high number indicating a more positive response). The final screen of the experiment then appeared informing participants they had completely finished the task and should alert the experimenter. They were then debriefed, paid, and dismissed.

Results

Manipulation checks

Commitment of candidates. To examine whether our commitment manipulations had the desired effect on participants' perceptions of candidates, a 2 (commitment) x 2 (socialisation) x 2 (source) ANOVA was run on participants' responses to the item "The candidate seems committed to the group" (given subsequent to the participants being supplied with all candidate information but before making their choice regarding their entry, with responses on a 6-point Likert scale from "strongly disagree" to "strongly agree"). This yielded a significant main effect of commitment (F (1, 88) = 4.31, p<.05) indicating that candidates in the high commitment condition were seen as more committed than those in the low commitment condition (with M= 3.74, SD = .85 and M=3.35, SD=1.03 respectively).

Significant commitment x source (F (1, 88) = 5.86, p< .05) and source x socialisation (F (1, 88) = 4.97, p<.05) interactions were also found. For the former, when the experimenter was the source of information, participants differentiated between high and low committed candidates; however, when the candidate was the source, no such difference occurred –see Table 5

Table 5

Differences in perceived commitment of candidate depending on source of information

		Commitment		t
		High	Low	
Source	Experimenter	3.96 (.81)	3.13 (1.03)	3.11**
	Candidate	3.52 (.85)	3.56 (1.00)	-.14
	t	1.81	-1.49	

Notes. Figures derived from participants' responses to the item "the candidate seems committed to the group", given on a 6-point Likert scale with responses ranging from "strongly disagree" to "strongly agree". Figures in brackets denote SD. *= p<.05. **=p<.01

The socialisation x source interaction indicated that the presence of socialisation increased perceptions of commitment when the candidate was the source of information, but decreased it when the experimenter was the source – see Table 6 However, further analysis on this interaction using t-test yielded no significant differences between cells.

Table 6

Differences in perceived commitment of candidate depending on presence of socialisation and source

		Socialisation		t
		Absent	Present	
Source	Experimenter	3.71 (.91)	3.38 (1.10)	1.15
	Candidate	3.29 (.86)	3.79 (.93)	-.19
	t	1.63	-1.42	

Notes. Figures derived from participants' responses to the item "the candidate seems committed to the group", given on a 6-point Likert scale with responses ranging from "strongly disagree" to "strongly agree". Figures in brackets denote SD. *= p<.05. **=p<.01

Finally, a 3-way commitment x source x socialisation interaction was found (F (1, 88) = 4.31, p<.05). This indicated that when the experimenter was the source of information, socialisation had no influence on perceived commitment for high committed candidates. However, when the candidate was low in commitment,

participants tended to perceive the candidate as *less* committed when socialisation was present than when it was absent although this difference was not significant – see Table 7

Table 7

Differences in perceived commitment of candidate depending on presence of socialisation and commitment level (experimenter as source only)

		Socialisation		t
		Absent	Present	
Commitment	Low	3.50 (.90)	2.75 (1.01)	1.87
	High	3.92 (.90)	4.00 (.74)	.25
	t	1.31	3.36**	

Notes. Figures derived from participants' responses to the item "the candidate seems committed to the group", given on a 6-point Likert scale with responses ranging from "strongly disagree" to "strongly agree". Figures in brackets denote SD. *= $p<.05$. **= $p<.01$

When the candidate themselves were the source of information, socialisation again had no influence on high committed candidates. For low committed candidates however, the presence of socialisation *increased* perceptions of commitment to a significant degree – see Table 8.

Table 8

Differences in perceived commitment of candidate depending on presence of socialisation and commitment level (candidate as source only)

		Socialisation		t
		Absent	Present	
Commitment	Low	3.15 (.99)	4.00 (.85)	2.28*
	High	3.45 (.69)	3.58 (1.00)	.36
	t	.85	1.10	

Notes. Figures derived from participants' responses to the item "the candidate seems committed to the group", given on a 6-point Likert scale with responses ranging from "strongly disagree" to "strongly agree". Figures in brackets denote SD. *= $p<.05$. **= $p<.01$

Admittance of the candidate

Overall, participants were more likely to grant entry to the candidate than to refuse it, with 62% of candidate' being admitted to the group. A break down of admittance rates by condition can be seen in Tables 9 and 10.

Table 9

Admittance of candidates to group by condition (experimenter as source)

		Socialisation		Totals
		Absent	Present	
	High	66.7	100	83.3
Commitment	Low	25.0	66.7	45.8
	Totals	45.8	83.3	

Notes: All figures given as percentages of candidates granted entry within conditions

Table 10

Admittance of candidates to group by condition (candidate as source)

		Socialisation		Totals
		Absent	Present	
	High	25.0	75.0	50.0
Commitment	Low	58.5	83.3	70.8
	Totals	41.7	79.2	

Notes: All figures given as percentages of candidates granted entry within conditions

To examine the effect of the independent variables on participants' choices, a logistic regression was carried out using commitment level of candidate (high/low), socialisation (present/absent), and source of information (experimenter/candidate) as the predictors and entry decision of the participants as the dependent variable. This yielded a main effect of socialisation ($\chi 2$ (1, N = 96) = 16.37, $p<.01$) indicating that the presence of socialisation increases the likelihood of candidate admittance. However, there was no main effect of commitment ($\chi 2$ (1, N=96) = 1.23, $p=.27$) nor of source ($\chi 2$ (1, N=96) = .19, *ns*).

Several further logistic regressions were then carried out to examine whether any interactions between independent variables were present. This yielded a significant commitment x source interaction ($\chi 2$ (1, N=96) = 7.71, $p<.01$). Here, when the

experimenter was the source, a high committed candidate is preferred over a low committed candidate. However, when the candidate themselves is the source of information, the opposite is true; participants prefer a low committed candidate over a high committed one (see Table 11). No other interactions – including any three way interaction between the independent variables – were found.

Table 11

Commitment level and information source on rates of candidate admittance

		Commitment level		Total
		High	Low	
	Experimenter	83.3	45.8	64.6
Source	Candidate	50	70.8	60.4
	Total	66.7	58.3	

Notes: All figures given as percentages of candidate granted entry within conditions

Feelings of trust towards candidate. It was also of interest to examine whether the manipulations affected participants' feelings of trust towards the candidate. To do this, the three items in the in-experiment questionnaire ("I think the candidate has the group's best interests at heart", "I think the candidate will exploit me and the other group members" [reverse coded], and "I trust the candidate", given on a 6-point Likert scale with responses ranging from strongly disagree to strongly agree; *alpha*=.77) were converted into a mean trust score with a higher number indicating greater trust of the candidate. This trust score was then used as the dependent variable in a commitment (high/low) x socialisation (present/absent) x source (experimenter/candidate) ANOVA. This yielded number of significant results; firstly, there was a main effect of source on trust ($F(1, 88) = 5.38, p<.05$). This indicated that the candidate was trusted more when the experimenter was the source of information than when the candidate themselves were (with M=3.75, SD = .86 and M=3.37, SD=.84 respectively). There was also a significant source x socialisation interaction ($F(1, 88) = 8.52, p<.01$). This indicates that the presence of socialisation increases trust when the candidate is the source, but *decreases* trust when the experimenter is the source, although not to a significant degree. An alternative interpretation of this analysis is that when socialisation is absent, a distinction is made between information coming from differing sources, with lower trust begin presented when the candidate is

the source. However, when socialisation is present, no such distinction is made – see Table 12

Table 12

Mean feelings of trust towards candidates depending on source and presence or absence of socialisation

		Socialisation		t
		Absent	Present	
	Experimenter	3.96 (.86)	3.54 (.83)	1.71
Source	Candidate	3.10 (.74)	3.64 (.87)	-2.33*
	t	3.72**	-.40	

Notes: Figures derived from participants' responses to the items "I think the candidate has the group's best interests at heart", "I think the candidate will exploit me and the other group members" [reverse coded], and "I trust the candidate", given on a 6-point Likert scale with responses ranging from strongly disagree to strongly agree; alpha=.77. Numbers in brackets are SD. *= p<.05. **= p<.01

Finally, a three-way interaction between commitment, socialisation, and source was present that approached significance ($F(1, 104) = 3.70$, p=.06). This indicates that for high commitment, there is no significant change in trust with the implementation of socialisation. For low commitment candidates, when the candidate is the source of the information, the presence of socialisation increases feelings of trust to a significant degree. However, when the experimenter is the source, the presence of socialisation actually significantly *decreases* trust in the candidate – see Table 13 and 14

Table 13

Feelings of trust towards candidate according to commitment level and presence/absence of socialisation (experimenter as source)

		Socialisation		t
		Absent	Present	
	High	3.96 (.92)	4.03 (.58)	-.36
Commitment	Low	4.00 (.84)	3.06 (.76)	2.88**
	t	-.23	3.52**	

Notes: Figures derived from participants' responses to the items "I think the candidate has the group's best interests at heart", "I think the candidate will exploit me and the other group members" [reverse coded], and "I trust the candidate", given on a 6-point Likert scale with responses ranging from strongly disagree to strongly agree; alpha=.77. Numbers in brackets are SD. *= p<.05. **= p<.01

Table 14

Feelings of trust towards candidate according to commitment level and presence/absence of socialisation (candidate as source)

		Socialisation		t
		Absent	Present	
	High	3.24 (.65)	3.44 (1.0)	-.57
Commitment	Low	2.97 (.81)	3.83 (.70)	-2.82**
	t	.88	-1.10	

Notes: Figures derived from participants' responses to the items "I think the candidate has the group's best interests at heart", "I think the candidate will exploit me and the other group members" [reverse coded], and "I trust the candidate", given on a 6-point Likert scale with responses ranging from strongly disagree to strongly agree; alpha=.77. Numbers in brackets are SD. *= p<.05. **= p<.01

Assurance that the candidate would contribute. In this experiment, we were keen to disseminate the effects of trust and assurance from one another - trust being the confidence that the candidate's benevolence would cause them to contribute, while assurance was the confidence that the candidate would contribute based on some situational/structural artefact i.e. the presence of socialisation. To examine this, a commitment (high/low) x socialisation (absent/present) x source (experimenter/candidate) ANOVA was run on participants' response to the item "There is nothing in the remainder of the experiment that makes me confident the candidate will contribute towards the group (given in the in-experiment questionnaire,

with responses given on a 6-point Likert scale from "strongly disagree" to "strongly agree" and reverse coded prior to analysis). This yielded a significant main effect of socialisation (F (1, 88) = 9.23, p<.01) with the presence of socialisation increasing assurance compared with when it was absent (M=3.85, SD=.95 and M=3.23, SD=1.08 respectively). There were no other main effects or interactions for independent variables on this item.

Perceptions of reputation source

Hypothesis 2 proposed that participants would be less likely to base their decisions on the information they received from candidates themselves (i.e. projected reputational information) due to the bias it may contain. To examine this, a 2 (commitment) x 2 (socialisation) x 2 (source) ANOVA was carried out on participants' responses to the item "how much did you base your decision regarding the newcomer on the information you received?" (given on a 6-point Likert scale with a higher score indicating greater reliance on the information). This yielded a significant main effect of source (F (1, 88) = 7.17, p<.01) indicating that participants were more likely to base their decisions on the information when it originated from the experimental officer compared with when it originated from the candidate (with M=3.52, SD = 1.32 and M = 2.88, SD=1.23 respectively). This analysis also yielded a significant main effect of commitment (F (1, 88) = 6.39, p<.05) indicating that participants based their decisions more on low commitment information than high commitment information (with M=3.49, SD = 1.28 and M = 2.89, SD=1.18 respectively).

Discussion

The two main findings gleaned from this experiment are, firstly, that the presence of socialisation in a group is a highly persuasive factor in group members' decision regarding the entry of new members. Secondly, the effect of commitment information on group members' entry decisions is not uniform, but is dependent on the source of that information.

Socialisation's effects on admittance rates

The results from this experiment show support for Hypothesis 3; candidates were more likely to be granted entry to the group in the presence of socialisation than in its

absence, regardless of their reputation. The fact that the presence of socialisation increases the likelihood of candidate entry is relatively unsurprising in itself; however, they are a few comments of note from this result. Firstly, socialisation does necessarily increase the trust that group members feel towards candidates. Trust measures in the presence of socialisation varied, and it appeared that the use of socialisation could decrease as well as increase feelings of trust towards candidates. However, unlike resocialisation, it appears that socialisation can still increase group members' assurance that members will contribute. Indeed, the monitoring component of the socialisation scheme may be important here, as its existence means that group members know that a newcomer will be subjected to a form of social sanctions should they fail to cooperate.

Some care should be taken however when considered how the use of socialisation may apply to real world groups. When implemented in an organisational context, groups may often have to compromise with the amount of resources devoted to the acquisition of new members. Socialisation processes often divert workers away from important duties and may even be viewed negatively by group members (Feldman, 1994; Sutton & Louis, 1987), forcing the group to implement them cautiously. Therefore, if the socialisation practices by a group are intense and time consuming, they may not be perceived as a benefit in all conditions, and may affect a candidate's chances of entry aversely.

Different reactions to commitment information as result of source

The findings from this experiment also show support for Hypotheses 2. When reputational information was projected (i.e. transmitted via the candidate), participants were less likely to base their decisions on that information compared with when it was acquired (i.e. transmitted via a third party). This adds weight to the argument that participants were aware of the biases that projected reputations may contain. Also of interest was the fact that when the candidate was the source of information, the commitment manipulation was unsuccessful. That is, in this source condition, participants made no distinction in the perceived commitment of high and low committed candidates. This suggests that information relayed to group members by different sources may not map onto the same personality construct. When a third party indicates to what extent a candidate is relinquishing options, this appears to influence existing members' perceptions of candidate commitment. However, when

the candidate themselves relays this information, no such tendency seems to be present. Therefore, we cannot conclusively say that perceptions of commitment influenced participants' choices when the candidate was the source information – an idea that will be discussed in more detail in the following Chapter.

As a side note, it is also worth mentioning that participants tended to base their decisions more on low commitment information than high commitment information. A possible explanation for this is due to the human predisposition to display a *negativity bias* towards information (cf. De Bruin & Van Lange, 1999, 2000); mostly likely because "erring on the side of caution" represents an adaptive advantage in social interactions.

A question that may arise from these findings regarding the influence of acquired reputations may be: why do participants listen to this third party source? Group members had not met this experimental officer (indeed, they did not actually exist), nor did they have any reason to assume this individual was telling the truth regarding the candidate. Perhaps an explanation for the effectiveness of this particular third party stems from the fact they may have been perceived as of *higher status* than most participants. Indeed, several studies have shown that those in authority are often unquestioned (cf. Milgram 1963) and perceived as being reliable sources of information (Messick & Kramer, 2001).

Support for Hypothesis 1 however was somewhat mixed. When an experiment officer was the source of reputational information, high committed candidates were indeed more likely to be granted than low committed candidates. By contrast, an unexpected finding in this experiment was that low commitment information could actually increase the likelihood of a candidate being granted entry to the group. This finding was intriguing; however, before surmising any reasons for this effect, its authenticity should be verified. Therefore, the following experiment aimed to replicate this effect to examine if self-reported low commitment information can indeed increase a candidate's chances of entry.

A second aim of Experiment 4 was to further examine to what extent characteristics of a reputational source play a part in group members' attendance to information. In the current experiment, we indicated that an acquired reputational source that is in a position of authority may be viewed as an accurate source of information. However, considerations of everyday life tell us that persuasive

reputations do not necessarily have to be supplied from higher status individuals. Friends, family members, and co-workers can also be highly influential in our decision making strategies. Therefore, in the following experiment, an acquired reputational source was used which was not dependent on status, but nevertheless was postulated to be a valuable source of information; namely an individual possessing a *shared social identity* with group members.

Finally, it was decided that in Experiment 4, no relational or structural variables would be investigated. This was primarily to make for a simpler experimental design in which the variables of commitment level and reputational source could be studied more easily, and any effects that might occur could be more easily deciphered.

CHAPTER SIX: OTHER SOURCES OF COMMITMENT INFORMATION AND THEIR INFLUENCE ON REPUTATIONS

Introduction

The main aim of Experiment 4 was to investigate the findings of Experiment 3 indicating that when reputational information was projected, candidate's reporting low levels of commitment may be highly likely to gain entry to the group. The reasons for this finding were uncertain. Examination of the manipulation checks for perceptions of commitment indicate that participants do not actually perceive information conveyed by the candidate as relating to commitment, as there is no difference for ratings between high- and low-commitment conditions. It is possible therefore that what we use as *commitment* information is in fact leading to inferences of some *other* candidate trait(s) by participants, which is then driving their entry decisions. For example, by relaying information which presents them in a less than positive light, the candidate may be perceived as more honest which may be valued by group members. However, before attempting to explain this finding further, its legitimacy should be ascertained via replication.

Other influential sources in reputations

This experiment also alters the *source* of commitment information in order to further examine the differences in the processing of information with respect to its origin. In the previous experiment, the source of commitment information was either from the candidate themselves, or from the experimenter monitoring the candidate in their own task. As mentioned in the discussion of this study, the latter source was highly persuasive in their recommendations of the candidate, and it was postulated that this may be due in part to their perceived higher status. This status differential lead, in turn, to participants formulating role-based trust towards this source and attending to the information they supplied.

It was of interest in this study to examine how other sources of information would influence participants' feelings of trust and consequently attendance to the information they supplied. One factor which may increase an individual's reliability as a source of information is a *shared-social identity.* Social Identity Theory (Tajfel, 1978, Tajfel & Turner, 1986) indicates that individuals tend to display intra-group

biases and ascribe positive traits to those within their group in order to maintain a positive social identity by association. Accordingly, if the information a group receives is transmitted via one their own members, it is highly likely the group will rate it as reliable and believable as doing so increases the positive valence of those sharing that identity. Brewer (1996) too, argues that group members will confer depersonalised trust to other members because of their shared category membership; something Kramer (1999) refers to as *category-based* trust. Therefore, it is likely that information relayed by a group member will be trusted and acted upon.

To examine this idea, Experiment 4 used acquired reputational information that was supplied by an *existing group member* rather than an experimental officer. Additional items were also added to the experiment in order to obtain further measures of participants' perceptions of the source in terms of their reliability and trustworthiness. From this, we can then examine whether a shared social identity increases the perceived veracity of reputational information, and how it may influence participants' membership decisions.

Overview of Experiment 4

The main focus of this experiment was to more extensively examine the way in which group's process information they receive based on its source. More specifically, it was hoped that the findings of the Experiment 3 could be replicated in order to legitimise the idea that low commitment information could increase the likelihood of candidate entry, and to examine why this result occurs. Furthermore, it was also of interest to examine whether a fellow group member would be a persuasive source of reputational information by virtue of their shared social identity. This leads to the following hypothesis:

Hypothesis 1: Information derived from a fellow group member will be influential in group members' decisions such that they will be more likely to admit a reportedly high committed candidate than a low committed candidate when supplied with an acquired reputation.

Hypothesis 2: The findings from Experiment 3 will be replicated; namely, that when reputational information is projected, a low committed candidate will be more likely to be admitted to the group than a high committed candidate.

Method

Participants

Twenty-three males and 29 females were recruited from the University of Southampton undergraduate population in return for either course credit (for psychology students), or the sum of £5 (for non-psychologists). Participants' mean age was 23.33 years (SD=2.34 years) with a range of 18 to 32 years.

Design

A 2 x 2 design was used which manipulated the candidate's level of commitment (either high or low) and the source from which participants received this commitment information (either a fellow group member or the candidate themselves). Participants were randomly assigned to conditions, and each cell consisted of 13 people.
The main dependent variable in this study was each participant's vote regarding whether the candidate should be granted entry to the group or not. New ancillary measures were also included in addition to those used in the previous studies to more fully investigate participants' perceptions of their information source. Furthermore, in this study all response scales were increased from 6-point to 10-point Likert scale to allow for greater variances in participants' responses.

Procedure

The same procedure as outline in Experiment 3 (and using the same basic paradigm given in Chapter Two) was used here. Participants failed in 50% of blocks prior to the presentation of a candidate for group membership who could assist them in their endeavours. Again, this candidate was reported as having been working on another task in which they could earn money, and participants would be supplied with information relating to why this individual had decided they would like to work in the participants' group. The following changes to the independent variables were also made:

Manipulation of source. In a similar fashion to Experiment 3, information relayed to participants was said to originate either from the candidate themselves or a third party. However, rather than this third party being the experimenter who was coordinating the candidate's task, participants were informed that this person would be a current group member, chosen at random. Participants were informed that this individual would be given an opportunity to examine the set-up of the candidate's current task and then to report back to the other group members (via the computer) what they thought the candidate's reasons for wanting to join the group were. In reality, all participants remained where they were and were supplied with information informing them that another one of their group had been assigned this task.

Whilst the chosen group member was ostensibly examining the candidate's situation, participants were asked to undertake a filler task and to watch the computer screen for a button that would appear when the group member had returned which would allow them to view the information about the candidate. The experimental interface was programmed to make this button appear automatically after one minute, and upon pressing it participants were presented with the information relating to commitment of the candidate in accordance with their condition.

Manipulation of commitment. The following texts (which were also used in the previous experiment) were used here:

Group member as source and candidate high committed

"The candidate has done very well in the task so far in terms of earning money. I think they could earn a lot more money if they continued in their current task. But he has made it clear that he wants to give up his earnings by joining your group. I believe that this is true"

Group member as source and candidate low committed

"The candidate has not done very well in the task so far in terms of earning money. I don't think they would earn a lot of money if they continued with this task, certainly not compared to what they would get if they joined your group. The candidate does not give up much by joining you group. I believe that this is the reason why he wants to join your group"

Candidate as source and candidate high committed

"I have done very well in the task so far in terms of earning money. I think I could earn a lot more money if I continued in my current task. But I want to give up my earnings and join this new group."

Candidate as source and candidate low committed

"I have not done very well in the task so far in terms of earning money. I don't think I would earn a lot of money if I continued with this task, certainly not compared to what I would get if I joined this new group. I'm not giving up much to join the new group; that's the reasons I want to join."

Once they had received their commitment information, participants were required to answer items relating to the ancillary measures of the study. Items were presented regarding their trust of the candidate (i.e. "I think the candidate has the group's best interests at heart" and "I trust the candidate") and their perceived commitment of the candidate (i.e. "how committed do you think the candidate is to the group?"), each given on 10-point Likert scales with a higher score indicating a more positive response. Once these items had been responded to, participants made their ultimate choice regarding whether they wanted to grant or refuse entry to the candidate.

Following this, participants were informed of the result of the votes they had cast; these always reported the group had voted in favour of admitting the candidate. Participants then undertook one final block of trials ostensibly with the candidate contributing. After this, participants were informed the experiment would have to cease due to time constraints; in reality this was to remove any endgame effects as participants believed that the task would last for 8 to 12 blocks rather than 5. A small post-experimental questionnaire was then presented to participants onscreen which consisted of the items "how reliable do you think the information you received about the candidate's performance in the previous task was?", and "how much did you base your decision regarding the candidate's entry on this information?" (all given on 10-point Likert scales from with a higher number indicating a more positive response). The experimental interface then informed the participant they had finished the task and should alert the experimenter. Participants were subsequently debriefed, paid, and dismissed.

Results

Manipulation checks

Commitment manipulations. To examine whether the manipulations of commitment used had been successful, a 2 (commitment high/low) x 2 (group member/candidate as source) ANOVA was run on participants' responses to the item "how committed do you think the candidate is to the group?" (on a 10-point Likert scale with responses ranging from "not at all committed" to "very committed"; M=4.90, SD=2.02). This yielded a significant main effect of commitment (F (1, 48) = 16.17, p<.05) which indicated that participants did indeed perceived candidates in the high commitment condition as more committed than those in the low commitment condition (with M=5.46, SD = 2.04 and M = 4.35, SD=1.87 respectively). There was also a commitment x source interaction which was approaching significance (F (1, 48) = 3.90, p=.05). This indicated that participants differentiated between high and low committed candidates when the group member was the source of information, but did not when the candidate themselves was the source (see Table 15).

Table 15

Perceptions of candidate commitment according to commitment and source conditions

		Source		t
		Group member	Candidate	
	Low	4.15 (1.86)	4.54 (1.94)	-.52
Commitment	High	6.31 (1.55)	4.62 (2.18)	2.28*
	t	3.21**	.10	

Notes. Figures indicate mean rating of commitment of candidate on a 10-point Likert scale with responses ranging from "not at all committed" to "very committed". Numbers in brackets = SD. *=p<.05. **=p<.01

Admittance of the candidate.

Overall, candidates were more likely to be granted entry to the group than refused, with 62% being admitted. Table 16 shows the breakdown of admittance rates by condition.

Table 16

Admittance rates for candidates according to commitment level and source of information

		Source		Total
		Group member	Candidate	
	High	84.6	46.2	65.4
Commitment	Low	38.5	76.9	57.7
	Total	61.5	61.5	

Notes. All figures given as percentages of candidates admitted within condition.

To investigate the effects of commitment and source of information on entry decisions, a logistic regression was run on participants' entry decisions with commitment (high/low) and source (group member/candidate) as predictors and choice regarding the candidate's entry as the outcome variable. This yielded no significant main effects for either commitment or source (with $\chi 2$ (1, N=52) = .33, *ns*) and $\chi 2$ (1, N=52) = .001, *ns* respectively); however, a significant interaction was present ($\chi 2$ (1, N=52) = 8.49, p<.01). This indicated that when the group member was the source, high committed candidates were preferred over low committed candidates. However, when the candidate was the source, low committed candidate were more likely to be granted entry compared with high committed candidates.

Trust felt towards the candidate.

In order to assess the feelings of trust that participants felt towards the candidate, analysis was applied to candidate's responses to the trust items supplied to them subsequent to the presentation of commitment information (namely; "I think the candidate has the group's best interests at heart", and "I trust the candidate", given on a 10-point Likert scale with a higher score indicating more trust of the candidate, r=.63). These items were converted to a mean trust score (with M=4.67, SD=1.81), which was then subjected to a 2 (commitment high/low) x 2 (group member/candidate as source) ANOVA.

This yielded a significant main effect of commitment (F (1, 48) = 9.96, p<.01) indicating that participants perceived a high committed candidate as more trustworthy than a low committed candidate (with M=5.36, SD=1.76 and M=3.98, SD=1.61 respectively). There was also a significant commitment x source interaction (F (1,

48) = 6.46, $p<.05$) which indicated that when the group member was the source, a high committed candidate was perceived as more trustworthy than a low committed candidate. However, when the candidate themselves was the source although this same trend was present, it was not significant – see Table 17

Table 17

Mean trust towards the candidate against commitment level and source of information

		Source		t
		Group member	Candidate	
Commitment	Low	3.77 (1.45)	4.19 (1.79)	-.63
	High	6.27 (1.42)	4.46 (1.64)	3.00**
	t	4.43**	.40	

Notes. Figures derived from the mean of participants' responses to the items "I think the candidate has the group's best interests at heart", and "I trust the candidate", given on a 10-point Likert scale with a higher score indicating more trust of the candidate Numbers in brackets indicate SD. *=p<.05. **=p<.01

Trust measures were also examined to ascertain to what extent they were above or below the midpoint of the trust scale. This analysis indicated that when the group member was the source of information, high and low committed candidates were rated as significantly above and below the mid-point of the scale, respectively (with t (12) = -3.06, $p<.05$ for low committed candidates and t (12) = 3.22, $p<.01$ for high committed candidates). When the candidate themselves were the source of information however, mean ratings of trustworthiness were not significantly different from the midpoint for high or low committed candidates (with $t(12)=-1.18$, $p=.ns$ and t (12) = -1.63, *ns* respectively).

Perceptions of reputation source

To ascertain how participants perceived the source of the information they received, a 2 (commitment) x 2 (source) MANOVA was carried out on the items "how reliable do you think the information you received about the candidate was?" and "how much did you trust the source of the information you received?" (each given on 10-point Likert scales with a higher score indicating a more positive response; $r(52) = .62$,

p<.001). Both items yielded a significant commitment x source interaction (with F (1, 48) = 4.80, p< .05 and F (1, 48) = 7.70, p< .01 respectively) which seemed to indicate that a distinction was made between the reliability and trustworthiness of the source when it was a fellow group member, but not when it was the candidate – see Table 18 and Table 19.

Table 18

Participants' ratings for the reliability of reputational information

		Source		t
		Group member	Candidate	
Commitment	Low	4.54 (2.11)	5.85 (2.34)	1.50
	High	6.23 (1.83)	5.00 (2.04)	1.62
	t	2.19*	.98	

Notes. Figures derived from participants' responses to the item "how reliable do you think the information you received about the candidate was?", given on a 10-point Likert scale with a higher score indicating greater reliability. Numbers in brackets indicate SD. *=p<.05. **=p<.01

Table 19

Participants' ratings for the trustworthiness of reputation source

		Source		t
		Group member	Candidate	
Commitment	Low	5.00 (2.00)	5.69 (1.84)	.92
	High	6.38 (1.12)	4.23 (2.24)	3.10**
	t	2.18*	1.82	

Notes. Figures derived from participants' responses to the item "how much did you trust the source of the information you received?", given on a 10-point Likert scale with a higher score indicating greater trust. Numbers in brackets indicate SD. *=p<.05. **=p<.01

General Discussion of Experiments 3 and 4

The main aim of these two experiments was to further investigate what factors influence groups' decisions to admit new members into their ranks. In particular, we postulated that *reputations* are a powerful factor in group members' decisions regarding candidates for membership, and that a reputation that indicated high

commitment would increase a candidate's chances of entry. Furthermore, we also put forward the idea that the *source* of reputational information can alter the way in which that information is acted upon. Finally, it was also hypothesised that the presence of structural artefacts which would assure group members of new members' contributions towards the group such as *socialisation* would also increase a candidates chances of entry and reduce the salience of reputational information.

The effectiveness of commitment information and the importance of source

In both experiments, support was found for the idea that commitment information is a salient and persuasive reputational cue for group members during the acquisition of newcomers. However, it was also clear that the source of reputational information could drastically affect the way in which it was attended to and acted upon. In both experiments, when reputational information originated from a third party (i.e. when it was an acquired reputation) participants were more likely to grant entry to a high commitment candidate compared with a low committed candidate. This supports the idea that third parties are seen as reliable sources of information. However, the results of the Experiment 4 indicate that this reliability is not always stable. When the third party was another member of the experimental group, participants rated them as *less* reliable and trustworthy in low commitment conditions than in high commitment conditions. The reason for this finding is difficult to ascertain; however, one explanation may be due to the fact that, as mentioned previously, negative information tends to be more potent and give rise to more extreme feelings than its corresponding positive form. Participants may have therefore found the invective with which the observing group member dismissed the candidate inappropriate for the situation, which in turn affected their assessment of them as a "good" group member. Consequently, the observing members standing as a useful source of information may have been reduced. However, the fact that participants' choices were still correspondent with the information they received from this third party suggest that the simple heuristic categories such as higher status (Experiment 3) or shared social identity (Experiment 4) can still be important factors in the level attendance afford to reputations.

Low commitment information as a way of increasing likelihood of entry

A finding of both experiments that further indicates the importance of considering the source of reputational information related to the fact that when it was projected (i.e. provided by the candidate themselves), group members were more likely to admit a *low* committed candidate that a high committed candidate. However, what is unclear at present is exactly how this effect operates. Analysis of commitment measures indicate that when the candidate is the source of reputational information, participants do not perceive any differences in commitment between candidates in high and low commitment conditions. This implies that the manipulations in each source condition are not mapping onto the same characteristic in all participants; when the group member is the source participants construe the information they receive as relating to commitment, but to some other facet of personality when the candidate themselves is the source.

Furthermore, it appears that whatever is driving this effect does not operate by increasing group members' feelings of trust towards the candidate. Measures of trust indicate that commitment information only influences perceptions of trust when the group member is the source of information. Here, participants perceive low committed candidates as less trustworthy than high committed candidates, and mean ratings of trustworthiness in each commitment condition are significantly below and above the mid-point of the ratings scale respectively. When the candidate is the source of information however, there is no significant difference in perceived trustworthiness between low and high committed candidates, and ratings of trustworthiness in each of these conditions are *not* significantly different from the mid point of the scale.

Despite the obtuseness of this effect, we can advance some possibilities as to why an ostensibly negative projected reputation can have such a positive influence on candidate's entry chances. Several researchers examining the processing of interpersonal communications have reported how information inconsistent with expectations causes deeper and more complex processing of that information (e.g. Clary & Tesser, 1983; Erber & Fiske, 1884; Hilton, Klein, & Von Hippel, 1991) Participants in these experiments would most likely expect a candidate to extol their own virtues and attempt to convince group members of their great suitability for membership; therefore when this does not occur participants may consider the information more carefully which, in turn, may lead to a much wider range of

interpretations of the commitment information than if it had been acted on more immediately. One such interpretation may be that participants perceive the candidate as more *honest* by "confessing" that they are giving up little to join the group which may in turn lead to the inference of other positive traits possessed by the candidate. Consumer studies have shown that organisations are evaluated more positively if they "come clean" and acknowledge the correspondence between their altruistic and self-interested motives (for example, by admitting that by cutting emission rates they are benefiting the environment and also earning themselves a tax concession) as it decreases scepticism and cynicism which leads to negative affect (Forehand & Grier, 2003). Therefore, it may also be possible for this type of integrity to be used by candidates for membership in order to increase their chances of admittance.

In a similar vein, the conveying of negative information about oneself may be seen as an act of *self-disclosure*, which has been found to be extremely important in the building of friendship bonds (Altman & Taylor, 1973; Matsushima & Shiomi, 2002) and in increasing positive affect between individuals (Vittengl & Holt, 2000). So, by intimating information about themselves, the candidate magnifies group members' feelings of positivity towards them and accordingly increases their chances of being granted membership.

It should also be noted that the high committed candidate in the candidate as source condition was particularly *unlikely* to be granted entry to the group. This supports the idea that self-aggrandising or bragging candidates are seen as socially undesirable.

Conclusions and suggestions for future research

Experiment 3 and 4 have offered some opening arguments to a relatively new line of research; namely, the role of *reputations* in the acquisition of members to groups. The results of these two experiments suggest that reputational information that indicates the commitment of a potential group member can be highly influential in groups' decisions regarding their admittance.

Furthermore, this research has also indicated the importance of reputation *source* on group members' decisions. Individuals receiving reputational information are sensitive to the motives and biases of its originator and will take them into consideration when acting on its content. In addition, we have shown that structural variables within a group – such as the opportunity to socialise new members – can

also increase a candidate's entry chances, and this increase may be independent of their commitment towards the group.

However, it is still unclear how candidates' projected reputational information which indicated low commitment *increased* their chances of admittance to the group. Subsequent research may like to attempt to measure a gamut of participants' feelings towards sources of information - including inferences of other characteristics candidates may possess - to examine whether the low committed candidate was indeed perceived as being more honest and self disclosing, and if the high committed candidate was seen as aversively self-promoting. Vonk (1999) argues that people are very much aware of the self-presentational strategies that others use to influence them - including the use of self-deprecation and modesty - which indicates that the low commitment information given by the candidate may not always been as desirable if it is perceived as strategic.

The importance of source in the conveyance of reputational information is also something that would benefit from further study. As mentioned previously, it may be of interest to examine how information obtained from *out-group* members would be attended to and whether participants would consider it trustworthy. Furthermore, the influence of *multiple sources* of information is an important consideration; in real-life we frequently have to consider the opinions of many people when choosing a course of action, and these opinions often do not agree (cf. Emler, 1990). Therefore, how we resolve reputational conflicts may be another fruitful avenue for further investigation.

This Chapter marks the end of the empirical section of this thesis. In the following Chapter, an attempt is made to reconcile the findings of all four experiments contained here. We examine in details what conclusions we can draw from the use of selection, socialisation, and resocialisation in the acquisition of new group members, and their relative effectiveness in convincing group members of a candidate's suitability. We also attempt to integrate the findings here with existing research and how it may add to this body of literature. Finally, we consider how this research could be extended and built upon to further understand the processes we have begun to investigate here.

CHAPTER SEVEN: GENERAL DISCUSSION

General overview of research aims

Most previous research examining cooperation in groups has focussed on eliciting contributions from individuals within *static* groups – for example, in social dilemmas - and have failed to embrace the dynamic nature of membership transition. Furthermore, those that *have* taken this dynamic perspective have overlooked the conflict that group members often face between individual and group beneficial behaviours when attempting to obtain contributions that social dilemma research offers. Therefore, it has been difficult to explain how open groups can sustain themselves without falling foul of exploitative individuals, and how small groups can expand to become the large scale collaborative endeavours indicative of modern society. The aim of this thesis therefore was to integrate these perspectives and examine how groups resolve cooperation problems in the context of dynamic membership transitions.

To begin with, we can postulated that many real-world groups are similar in nature to *public-goods social dilemmas* in that it is possible for a member to obtain the benefits of group membership without adequately contributing towards their provision. For example, in organisational project groups, it is possible for individuals to exert little or no effort and still share the accolades of the completed project. This is an obvious concern for groups for two main reasons. Firstly, free-riding individuals deplete the resources available to groups which reduces productivity. Second, group members who *do* contribute adequately may be inhibited by free-riding individuals as they realise that unanimous cooperation is unattainable (Pruitt & Kimmel, 1977), or because they do not wish to be exploited (Kerr, 1983; Schnake, 1991). Therefore, the presence of free-riders within a group may cause widespread non-cooperation, a reduction in output, and even the possible dissolution of the group.

A large body of research has indicated several solutions to free-rider problems which primarily relate to manipulating characteristics of individuals within the group (individual solutions), the way in which those individuals interact (relational solutions), and the structure of the group itself (structural solutions). To attempt to address issues relating to *dynamic* groups, we turned to a detailed account that describes the changes in individual-group relations over time; namely, the Group

Socialisation model (Moreland & Levine, 1982). This describes the membership arc of an individual as they join, participate in, and eventually exit a group, and attempts to outline the ways in which both a group and an individual relate to one another to produce a mutually satisfying relationship.

The Group Socialisation model is primarily a descriptive account of the associations between an individual and a group, and acts as an archetypal account of a functional relationship between the two. However, by examining the processes it outlines, it can also be used as a *prescriptive* tool for examining how a functional individual-group relationship can be *elicited* from a collective. More specifically, it can be used to indicate how a dynamic group engaged in recruitment can utilise individual, relational, and structural solutions in order to elicit cooperation from newcomers and resolve issues with cooperation that their public-goods-esque structure may precipitate.

Accordingly, this work extracted three mechanisms from the Group Socialisation model which can be applied to public-goods scenarios, and which a group may use when acquiring new members in order to assure themselves of adequate contribution levels and conformity with group norms. Firstly, the investigation process a group undergoes when first encountering possible candidate's for membership allows the formation of a *selection* strategy in which new members must satisfy certain criteria in order to gain entry to the group. The criteria that a group chooses should, in turn be diagnostic of a newcomers likely contributions towards the group's goals. Secondly, the *socialisation* that a new member undergoes once they have entered a group allows members to transmit norms and behavioural skills which they believe will lead to the newcomer enacting pro-group behaviours. Finally, the resocialisation processes can take the form of a *sanctioning system* which penalises free-riding group members and acts to prevent defection/exploitation by newcomers.

A summation of the findings from all four experiments

At this stage, it may be of interest to look at some of the general effects that have occurred over the course of all the experiments carried out in this work. An examination of the pooled data from all four studies indicates that participants were more likely to grant entry to the candidate than refuse it, with 65% being admitted overall. This seems at least to support the idea that groups perceived they could

benefit from the inclusion of a new member. An examination of admittance rates by gender however seems to indicate no real differences between males' and females' inclusion rates (with 67% gaining entry for the former and 64% for the latter).

One interesting findings of this analysis was the fact that post entry, existing group members contributions towards the group tended to *drop*. Indeed, a repeated measures t-test of this pooled data indicates a significant difference between the mean contributions in the blocks before the entry of the candidate (with M=6.62, SD= 1.84) and the final block after the entry of the candidate (with M=6.10, SD=3.18 after; $t(271) = 3.02, p<.01$). Furthermore, this effect cannot be due to the use of endgame strategies, as participants believed that the task would consist of between 8 and 12 blocks.

Retrospectively, this finding should not be entirely unexpected. Social dilemma research indicates that contributions tend drop in public goods games as group size increases (e.g. Bonacich, Shure, Kahan, & Meeker, 1976; Dawes, 1980), due the fact that larger groups of people offer greater opportunities for anonymity and increase the perceived dispensability of one's own contribution. It is also possible that when working on the task, group members engaged an "equal distribution" norm regarding the division of labour amongst them (cf. Jost & Azzi, 1996; Kagel, Kim, & Moser, 1996; Wilke, Wilke, & Metman, 1999). That is, as the total number of puzzles that needed to be reached was 18, group members implicitly divided this by the number of individuals in the group (i.e. three) and each set about attempting to contribute their share of this division (i.e. six correctly answered puzzles). Consequently, when a new member arrived, the labour could be shared with an additional person, meaning group members could lessen their own contributions and still reach their target.

The curious aspect of this finding is that group members could benefit more if they maintained their levels of productivity prior to the occurrence of the candidate than if they reduced them to accommodate the efforts of the newcomer. Recall that if the group's total number of correctly answered puzzles was 18 *or over*, they would receive a point for every puzzle answered. Therefore it was in their interest to keep a constant level of high performance so that the addition of the newcomer's contributions would allow them greater rewards. Why then do contributions appear to go down? One explanation may simply be fatigue; having already completed four blocks of puzzles and answered several items regarding a candidate member,

participants may have begun to experience a degree of weariness which then undermined their performance in the fifth block. A certain amount of boredom with the task may also have demotivated participants and caused a drop in contributions.

An alternative – and more intriguing - explanation for this finding may be due to the goal that group members were set. The aim in each block was for participants' pooled contributions to reach at least 18 correctly answered puzzles in order to realise the public good. It is possible therefore that the salience of an obvious target such as this may have focussed participants' attention on merely *achieving* it, without giving full consideration to *exceeding* it.

There are several ramifications stemming from this idea. Firstly, a large body of research has indicated that goal setting for groups is beneficial as it increases members' feelings of self-efficacy, situational control, and motivation to perform (e.g. Hoegl & Parboteeah, 2003; Locke & Latham, 2002; Wegge, 2003). However, it appears that although goal setting is useful in promoting productivity, it may lead to a limited behavioural repertoire as groups seek to achieve a goal without considering actions outside of their current target. Second, it seems that the acquisition of new members to a group does not necessarily increase that group's productivity to the extent that might be expected. Existing group members may reduce their contributions upon the entrance of new members either through a desire to deliberately free-ride, to socially loaf due to the perceived dispensability of their own contributions, or to maintain a fairness norm. Thirdly, and perhaps the most important conclusion from this finding is that although groups do seem concerned with only granting entry to those members they feel positively about, this may not always be due to a desire to maximise their benefits but simply because they find exploitation aversive. Indeed, it has been remarked in previous research (e.g. Kerr 1983; Kerr & Bruun, 1983; Mulvey & Klein, 1998) that individuals engaged in a social dilemma will make up the short fall of non-contributing members as long as their lack of contribution is the result of skill deficiencies and not motivational problems. Therefore, although it is clear that many groups acquire new members with the aim of increasing their productivity, it may be that some groups do not always approach this process in an entirely rational manner and may not always consider candidates for membership based purely on how that individual can affect the groups output. Rather, they may also focus on more relational concerns such as the positive

affect they feel towards candidates, and how newcomers may affect the cohesion between those in the group.

The structure of the remainder of this chapter

The following sections in this chapter now turn to the specific mechanisms that have been examined in the four previous experiments (i.e. selection, socialisation, and resocialisation) and the implications of their effects. Following this, we then examine how this research can be integrated into the existing literature, focusing on its role in regarding newcomer recruitment, social dilemmas, reputations, and evolutionary theory. We then consider how this research may be extended to further investigate dynamical group processes, looking particularly at areas regarding the use of reputations in interpersonal relations, the admittance of multiple candidates to a group, and empirical examinations of real-world groups. The final section then details the conclusions of this work, summarising how it impinges on general group dynamics research and society in general.

Selection and the Use of Commitment in Member Acquisition

Commitment and the goals of the group

For Experiments 1 and 2, it was apparent that the commitment indicating a relinquishing of material incentives (secured commitment) was more influential in decisions compared with commitment indicating a giving up of personal autonomy and significance (unsecured commitment). This was marked by a greater difference in admittance rates for high and low committed candidates in Experiment 1 compared with Experiment 2. However, when examining commitment in real-world groups, stronger more enduring bonds between group members are normally marked by expressions of unsecured commitment rather than secured commitment (cf. Clark, 1981; Yamagishi & Cook, 1993). Expressions of emotional attachment to a group by a member imply that they are intrinsically motivated to contribute towards the good of the group. By contrast, relationships based purely on tangible exchanges are usually superficial and give rise only to extrinsic motivation which is supplied via the contractual agreement between members. Therefore, because of the high levels of

cohesion unsecured commitment supplies, it could be expected *a priori* that this form of commitment may have more influence than secured commitment. This in turn should have lead to a greater distinction between high and low committed candidates in Experiment *2,* rather than in Experiment 1 as was found.

A possible explanation for this difference is that attendance to certain kinds of commitment information may be driven by the demands of the situation it is presented in. In the case of these experiments, participants were engaged in a task which made the goal of point acquisition and monetary incentives very clear from the outset. The perceived time frame for the task was also short, meaning that there was little advantage in forming long-lasting social bonds with the new member when the group would be dissolved after 30 minutes. Therefore, it is logical to assume that participants would attend to information that impinged on this goal more strongly that to more intangible factors such as the candidate's emotional attachment to the group (cf. Wanous, 1980; Zander, 1976). This implies that attention to commitment information may not be considered in isolation; rather, it may be *goal-directed*, with group members looking for particular types of commitment depending on their goals. If a group is engaged in task in which the production of tangible materials is emphasised, commitment which reflects this goal may be more influential than those relating to more relational concerns. This logic also allows us to assume that, in a different context, a more relational form of commitment (such as that used in Experiment 2) may have been more effective. For example, in a situation which specified the goal of forming sociable cohesive bonds with other individuals, commitment information which indicated a candidate's affective attachment to a group (i.e. unsecured commitment) may be more useful in the completion of the group's goals. Therefore, we may find in this case that unsecured commitment would be more important to the group.

Although the salience of certain types of commitment in particular situations may vary, this does not mean that they are mutually exclusive. For example, consider an individual who is entering an organisation as a new employee. A primary concern of those recruiting them is that they work for the group and do not exit the group to work for another organisation. Therefore, they will attempt to enforce securely bound commitment upon this person in the form of a contract. However, it will also be a concern to them that this new employee integrates socially with the rest of the work

force. Therefore, they may also look for displays of commitment from a newcomer that indicate they are liable to form affective ties to the organisation and those in it.

Source considerations in commitment

As well as considering the goals of the group when attending to commitment information, Experiments 3 and 4 also indicate group members are attuned to who is conveying commitment information, which may in turn alter how they react to it. When a third party was the source of commitment information, participants tended to admit high committed candidates and reject low committed candidates. Despite having no previous contact or knowledge of these sources, participants believed the information they were told and acted accordingly. This seems to indicate that participants were sensitive to third party sources' category memberships which implied they were trustworthy; either because they were in a position of responsibility (Experiment 3) or because they shared a social identity (Experiment 4). So, in addition to attending to the commitment information itself, participants also engaged in a heuristic judgement of the information's veracity based on characteristics of the source.

Secondly, when the candidate themselves were the source of information, participants were likely to admit a *low* committed candidate, and unlikely to admit a high committed candidate. This implies that participants are sensitive to the fact that different sources of information may have different motives in their conveyance of commitment, and adjust their processing of that information accordingly. When a candidate indicates that they are high committed, participants are aware that the accuracy of this information is questionable, as the candidate has reason to present themselves in a favourable light. Furthermore, they may find the self-aggrandising aspect of this claim disagreeable. Accordingly, participants were less likely to vote for such an individual to join the group.

Taken together, this evidence suggests that group members rarely consider commitment information they receive in isolation. Rather, they are sensitive to the surrounding context such information occurs in. Firstly, the goals of the group may alter the influence that certain types of commitment information have over membership decisions. Secondly, group members are sensitive to simple heuristic cues that may indicate the trustworthiness of information sources. Third, the motives

and biases that may be present in information are salient the group members, and can influence their processing of its content.

The effectiveness of selection as a member acquisition strategy

Overall, selection seems to be a useful strategy for groups to implement when recruiting new members. Its presence allows group members to specify parameters which they believe are indicative of likely contributions towards a group, and if candidates fulfil these parameters group members should feel assured that these individual will not exploit other members and will cooperate with group goals and norms. It is also clear that selection is not a passive process. Group members engaged in the processing of selection information will attend to situational factors surrounding it, and modify their responses to its content depending on what they find.

It is also apparent that fulfilling selection parameters is a *necessary* for candidates to considered for group membership, but not *sufficient* for membership to actually *be* granted. If group members construe other undesirable traits as a consequence of the commitment information they perceive, a candidate may still be refused entry to the group. This is evidenced by the findings of Experiments 3 and 4 when candidates were the source of information; both high and low committed candidates were rated as possessing similar amounts of commitment, yet the latter was much more likely to be admitted to the group than the former.

When examining these types of strategies in real-world groups, it is worth noting that selection in isolation may not always be an effective method of ensuring contributions from new members. For groups with a highly complex social culture or numerous esoteric norms, it will be virtually impossible for a group to specify selection criteria that will lead to immediate contributions on par with full members from newcomers. Rather, they will most likely have to undergo some socialisation in order to become fully integrated members. A similar claim can be made for groups in which highly specific skills or tool use are required; new members will almost certainly have to undergo some form of intra-group orientation before enacting group-beneficial behaviour. In the case in which further education is necessary, selection may be used more as a primer to ensure that an individual will be capable of learning what is required of them once they have joined the group. Indeed, this is why commitment is such a useful selection tool; regardless of the complexity of the group, the presence of commitment in candidates should signal existing members that the

individual will be willing to contribute towards the benefit of the collective. However, further consideration will also need to be given to the candidate to ensure that they are then *able* to cooperate with group goals.

Relational Group Artefacts – the Use of Socialisation

Socialisation and its use in groups

Socialisation is the process by which group members attempt to indoctrinate new members to the culture of the group and the expectancies placed on those within it. As well as providing new members with any skills they may need to contribute towards the group, it also attempts to provide them with the *motivation* necessary to carry out what is required of them. As such, the presence of socialisation should increase a group's confidence that new members will contribute towards group goals as they will feel assured that socialised individuals will be posses the impetus to contribute. This in turn will increase the likelihood of their granting entry to membership candidates.

Experiment 3 in this thesis aimed to investigate how socialisation would alter both new members' membership chances, and existing group members' feelings regarding newcomers. In addition, it was also of interest to examine how socialisation might interact with other member-acquisition strategies such as selection to modify members' choices.

Experimental findings

The primary finding in Experiment 3 was that socialisation did indeed increase the chances of a candidate gaining admittance to a group. Furthermore, this effect was found regardless of the candidate's reported level of commitment towards the group, and whether this report came from a third party or the candidate themselves. However, an additional finding of note is that this increase in admittance likelihood did not give rise to a corresponding increase in trust. Rather, the presence of socialisation led to an increase in *assurance.* To reiterate this difference: recall that in the literature, a distinction is made between the origins of an individual's confidence that another will enact certain behaviours (e.g. Hwang & Burgers, 1997; Yamagishi &

Yamagishi, 1994). For trust, this belief stems from a perceived benevolence on behalf of the actor; an internal disposition of goodwill which prompts them to enact beneficial behaviour. For assurance, it stems from *situational* factors; characteristics of the surrounding context which indicate the probability of certain behaviours occurring. So, a person may feel confident that a friend would not steal from them because they know they are positively disposed towards them (trust), but also because the friend does not wish to be arrested for stealing (assurance).

Participants' increased feelings of assurance most likely derive from their attributions regarding the candidate's motivation to contribute. That is, it is probable that participants believe candidates will contribute because they are being monitored during the socialisation process. Social facilitation literature indicates that when an individual is under surveillance by others, they will have a greater level of productivity than when working alone (Zajonc, 1965), even when these observers are not physically present; for example, if they are being monitored via computer (Rafaeli, 2002). It has been remarked that this effect is driven by an observed individual's concern regarding their evaluation by others (e.g. Harkins, 1987), although this evaluations do not need to be explicitly made; implicit demands of the situation may compel observed individuals to work harder to gain approval (Bond, 1982) or because the presence of others gives a greater salience to conforming to expected behavioural standards (Carver & Scheier, 1981).

So, when members know that the newcomer is being monitored by another one of their group, they should be more confident that the newcomer will contribute, even in the absence of an explicit evaluation by the observing member. Furthermore, because this increase in confidence is a result of situational factors (i.e. the presence of an observer) and not the disposition of the newcomer, they experience a corresponding increase in assurance, but not trust.

The importance of internalising group norms

Despite the utility of the socialisation practices used here, it is preferable for group members to feel a candidate will contribute through their own intrinsic motivation rather than because of situational factors. That is, it is better for a group to feel trust towards a newcomer rather than assurance. Socialisation that accomplishes this is much more beneficial to groups as it means that newcomers will contribute *willingly* to group goals as they have adopted these as their own and will exert effort

accomplish them. By contrast, if it is only situational factors that are eliciting contributions from a member, they cannot be relied upon to cooperate with group goals if the situation changes. Once the mechanisms which compel a member to cooperate are removed, contributions towards the group may drop or even cease. This argument applies not only to small groups, but also on a societal level. Etzioni (2000) expounds in detail that the internalisation of social norms such as laws leads to a greater level of conformity, which ultimately should lead to a much more peaceful, cooperative society. Etzioni also supports the idea that the internalisation of norms is much more economic – it frees resources that would be used to ensure conformity to be used for other ventures. Ideally then, socialisation will be concerned with new members internalising group norms and values which will lead to the intrinsic motivation to contribute towards the group rather than placing situational constraints on their behaviour.

Accomplishing this may require the skilful use of socialisation practices. When a new member first joins a group, they will possess little intrinsic motivation to contribute having not yet had an opportunity to internalise group norms and values. Motivation at this stage must therefore be *extrinsically* provided if the group is to be assured that the newcomer will contribute. As the new member comes to experience the group, members may increasingly implement strategies to increase the *intrinsic* motivation of the newcomer. Established group members may then come to *trust* that individual; i.e. they may be confident that the newcomer feels benevolently disposed towards the group and its goals. Support for this idea can be found indirectly in Moreland and Levine (2002) who argue that group members trust of new members is changeable over time and may increase or decrease as they demonstrate their "trustworthiness". Presumably, for this to happen a new member must somehow demonstrate their willingness to display group appropriate behaviours independently (rather than because they are being monitored) so other members can attribute their actions to internal disposition rather than situational factors. Members may be particularly interested to examine the frequency of *organisational citizenship behaviours* in potentially trustworthy newcomers. These behaviours are pro-group actions which are outside an individual's prescribed duties, and their occurrence has been shown to relate to feelings of positive affect towards a group (Lee & Allen, 2002), and concern for a group's welfare (Rioux & Penner, 2001; Van Vugt &

Snyder, 2002). Therefore, their display by new members may be diagnostic of their intrinsic motivation to work for the collective benefit of the group.

Dynamic socialisation strategies

Following from these ideas regarding trust and assurance, we can postulate that the nature of socialisation should *change* over time in order to be maximally effective. During the initial exposure to a group, a new member can be provided with socialisation experiences that provide extrinsic motivation to contribute, increasing existing members' feelings of assurance. Over time, socialisation practices can be introduced which increase a newcomer's intrinsic motivation, increasing existing members' feelings of trust.

To elaborate further, we can utilise other work by Etzioni's (1961) which describes three types of socialisation that a group may use depending what it hopes to achieve by the process. The first type, *normative* socialisation, involves ensuring newcomers possess the morals and values that match with the group's own. This type of socialisation may be important to newcomers in groups such as Churches or non-profit organisations, and corresponds to ideas of internalising group norms and enacting behaviour through intrinsic motivation. By contrast the second type - *utilitarian* socialisation - aims to give rise to certain behaviours, but is unconcerned with the underlying values that actors may have. This may be found in many organisations in which employees need to produce, but not necessarily agree with management ethos, and is congruent with the ideas regarding the extrinsic motivation to contribute through the presence of others. Finally, *coercive* socialisation is concerned with obtaining simple obedience, regardless of how willing individuals are to enact the behaviour asked of them. This type of socialisation is common to institutionalised settings such as prisons, and usually involves the use of punishment to shape behaviour. It should be noted here that we refer to this form of social pressure as *resocialisation*, and will discuss it separately in the next section.

Rather than utilising socialisation strategies in isolation however, we can consider that groups may utilise the different types mentioned by Etzioni at different times during a new member's integration into a group. When an individual first enters a group, members may use utilitarian socialisation practices in order to elicit pro-group behaviours from the newcomer. To do this, newcomers should be placed in a position wherein they feel that they may be observed (and judged) by other group

members, which according to social facilitation research should enhance their performance. As an individuals time in the group progresses, members should then "phase in" more normative socialisation practices to ensure internalisation of group norms and values by new members. Here, whilst the newcomer is still enacting group appropriate behaviours due to the extrinsic motivation provided by social monitoring, members need to begin making group norms more salient. In itself, this may lead to internalisation, as self-perception theory (Bem, 1972) indicates behavioural compliance with a norm should lead to individuals attributing the cause behind this behaviour as intrinsic. This should therefore lead an internalisation of the norm as this individual "convinces" themselves they agree with it.

Group members may also give encouragement and social approval to conformity with (now salient) group norms leading to newcomers making the association between norm-correspondent behaviour and positive emotional experiences – a simple form of positive reinforcement. Gradually, as newcomers appear to be internalising the values of the group, members can reduce extrinsic motivators such as social monitoring allowing the newcomer to contribute through their own intrinsic motivation as a full group member.

Important considerations in the socialisation process

The above description of utilising dynamic socialisation processes is illuminating, but paints a rather idealised picture of socialisation in groups. In reality, there are a number of other considerations that must be taken into account when considering the effectiveness of this kind of program.

Firstly, a group must consider whether the internalisation of group norms and values is really necessary for newcomers. This process is extremely useful for all groups as it reduces or eliminates the need for intra-group policing, produces higher cohesion between members and a greater likelihood of organisational citizenship behaviours, and overall allows for a more pleasurable and enduring relationship with a group. However, the actual process of internalisation may be costly for a group as it requires the careful deployment of resources, and may be time consuming. Therefore, if a group is satisfied with simply obtaining group-appropriate behaviours from newcomers, they may only enact socialisation processes that cause them to be elicited, even though in the long run this leads to sub-optimal group relations.

Secondly, the formality level of the group should also be considered. Van Maanen (1978) describes formality as the extent to which newcomers are integrated immediately with the rest of the group (informal) or segregated and socialised separately from full members (formal). In the former case, it is more likely that the group will require the newcomer to contribute straightaway; therefore they may need to utilise a more varied gamut of socialisation strategies in order to provide extrinsic motivation at the initial contact stage, and then other normative socialisation strategies to cause the internalisation of norms. In the latter, newcomers may not be required to contribute at a full level immediately; groups therefore will have more time to allow for newcomers to adopt group values and can focus more on socialisation practices that accomplish this from the outset.

Thirdly, the interplay between a groups selection and socialisation strategies is also important. If a group's selection strategy is sufficient to assure group members that the newcomer possess values congruent to its existing members, the amount of normative socialisation the newcomer undergoes may be lessened. For example, in the case of commitment, its presence in newcomers should indicate these individuals are dispositionally motivated to work for the group. Accordingly, members may focus more on producing appropriate behaviours in new members than concerning themselves with internalising norms (cf. Moreland & Levine, 1989).

Summary of socialisation findings and conclusions

Overall, Experiment 3 indicates that socialisation is a highly effective strategy in the recruiting of new group members and may be sufficient by itself to convince a group that a new member will contribute towards their goals. However, if socialisation is to be used in isolation during the acquisition of new members, it must take into account that during their initial time with the group, newcomers will most likely require extrinsic motivation to contribute, and only by utilising a variety of socialisation process can a group be assured they will a) contribute immediately which may be important in informal groups, and b) come to internalise group norms, values and contribute via their own impetus.

When working in tandem with a group's selection strategy, the demands on a group's socialisation practices may be lessened. When selection indicates that a newcomer is already motivated to contribute towards the group (e.g. by displaying

commitment), the group may be less concerned with implementing socialisation practices which are concerned with shaping dispositional attributes.

Finally, we must consider the fact that although socialisation can be used optimally, some groups may only be concerned with eliciting behaviours that fulfil their instrumental goals (relating to material production) and will give little regard to tailoring socialisation to enhance the cohesion or intrinsic motivation of members.

The Use and Effectiveness of Sanctions as Resocialisation

The strategies used in Experiment 3 indicate the importance of providing newcomers to groups with the motivation to contribute towards the group's goals and how socialisation can be an effective method of accomplishing this. However, Experiments 1 and 2 also examined strategies that also dealt with this issue, but offered a different method of solving motivational problems. Here, mechanisms were put in place to which focussed much more on the issue of member *deviancy* and how it can be dealt with. The terminology for these strategies is not standardised; as mentioned in the preceding section, Etzioni's (1961) typology of socialisation practices refers to this as coercive socialisation, whereas Moreland and Levine's (1982) Group Socialisation model term it resocialisation. In order to avoid confusion, we shall be using the latter label here in order to maintain consistency with the rest of this work which also utilised Moreland and Levine's model.

Strategies of this nature are usually implemented once a newcomer has entered the group and has the expectation placed on them that they will begin to contribute towards group goals. In a similar manner to socialisation, resocialisation aims to produce pro-group behaviours in members. However, its impetus is given by *divergence* from a member; behaviour that goes against the expectations of other group members. In public goods social dilemmas, a simple manifestation of divergence is the withholding effort and free-riding on the contributions of other members. If this behaviour is displayed by a member, the group may then engage in resocialisation in an attempt to elicit cooperative behaviour from that individual. This may involve the reiteration of appropriate member behaviours and norms, and may also contain a punitive element in order to persuade against further deviance. So,

whereas socialisation aims to elicit behaviours that are congruent with group goals, resocialisation aims to *eliminate* behaviours that are *incongruent* with group goals.

A simple method of implementing resocialisation in groups which allows for this is use of a *sanctioning system* (Yamaghishi, 1986, 1988b). Here, the structure of the group is altered so that behaviours incongruent with group goals are less beneficial to an individual than those that are congruent, and is commonly achieved by levelling a penalty at any group member who displays deviant behaviour. Thus, although initially they may benefit from their actions, once the penalty is invoked their net economic gain is less than if they had acted appropriately. Sanctioning systems therefore serve to penalise deviating members (and, if effective, stop subsequent deviance) and/or discourage deviant behaviour in contributing members. In addition, sanctions may act to increase the likelihood of cooperation in members who fear defection from others by assuring them that their efforts will not be exploited (Yamagishi, 1988a).

The effectiveness of resocialisation in the admittance of new members

In both Experiments 1 and 2, no support was found for the effect of sanctioning systems on group members' choices regarding candidate membership. That is, the presence of a sanctioning system in a group did not increase the likelihood of a candidate gaining entry to that group. This finding was unexpected, as it was hypothesised *a priori* that by placing a mechanism within a group that would penalise defecting members, existing members would feel confident that newcomers would contribute towards the good of the group and would accordingly be more likely to grant them entry. However, in the discussion sections of the preceding Chapters, we offered some possible explanations for sanction's lack of effectiveness. A primary cause cited here was that the implementation of a sanctioning system can lead to negative affect amongst group members. Sanctions in both experiments were applied to any group members who defected, and whilst their invocation was primarily to discourage newcomer free-riding, participants may have found it an affront to be targeted by such a system when they were "established" members. In addition, the lack of control that participants had over sanctions may have caused resentment. Trevino (1992) reports that individuals prefer to feel involved in the application of judicial procedures in their groups, and general theories of learned helplessness (e.g.

Abramson, Seligman, & Teasdale, 1978) report that individuals who perceive behavioural constraints as foisted upon them find this situation aversive.

A second problem with sanctioning system reported in these experiments was that their presence can make the possibility of free riding much more salient to group members (Tenbrunsel & Messick, 1999). That is, members may reason "why else would a sanctioning system be needed, if not to prevent free-riding?". This perceived threat may give rise to behavioural rigidity and tightening of group boundaries (Staw, Sandelands, & Dutton, 1981) lessening the chances of candidate entry.

The use of resocialisation in real small groups

The fact that resocialisation in the form of sanctions had no influence on group members' decision in either experiment indicates that its presence may not always be of use to a group. Although superficially it provides newcomers with the extrinsic motivation to contribute towards group goals (through their desire to avoid punishment) in a similar manner to socialisation, its lack of effectiveness here indicates that its underlying nature may be very different. Furthermore, even when sanctioning systems *are* effective, we may point towards aspects of them that may in fact be detrimental to the group.

The presence of sanctioning systems within groups may preclude the forming of affective bonds between group members. Tenbrunsel and Messick (1999) have found that when sanctions were invoked in an interdependence situation, it changed the framing of the situation from one of mutual cooperation to one of economics. That is, at the initial stages of a social dilemma task, player may perceive the choice they are presented between cooperating and defecting as a moral one, and will make decisions based on their scruples relating to such situations. However, when sanctions are implemented, the situation becomes framed in terms of the fiduciary consequences of players' actions; individuals are told what they may gain for the actions and how they may be penalised in terms of material incentives. This may cause a superficial developing of relationships amongst members as, according to Clark (1981), the non-comparability of exchanges is a key component of friendship links.

Similarly, Fehr and Rockenbach (2003) report that the presence of sanctioning systems in groups reduces the need to individual members to develop trust of each other as they can rely on the threat of penalties to produce desired behaviour from

others. Again, this may lead to the development of rather shallow relationships between group members which will be based only on material exchanges. Furthermore, if it is only the presence of sanctions that is prompting behaviour, cooperation amongst group members may rapidly diminish should they ever be removed.

Of course, the lack of affective bonds between group members does not necessarily mean that a group will be incapable of functioning. Indeed, many successful organisations carry out business transactions based purely on the exchange of tangible goods. Rather, what is suggested here is that such groups are performing sub-optimally, even though their absolute performance may be sufficient for those in charge. Groups in which members share social bonds will experience greater cohesion, stronger affective commitment, a greater likelihood of citizenship behaviours, and will ultimately experience a more enriched and favourable time within the group. If the presence of sanctioning within the group threatens the formation of these bonds, its benefit may be questionable.

Wider uses of resocialisation

It should be understood at this juncture that resocialisation does not have to comprise solely of sanctions. A crucial element in the implementation of resocialisation is the group's attribution as to the cause of the deviant behaviour a group member has displayed. If a group member is perceived as not knowing how to contribute, being incapable of contributing, or misunderstanding what is expected of them, it is likely that members will engage in more "educational" forms of resocialisation which will be almost identical to socialisation. Furthermore, the perceived appropriateness of resocialisation by other group members will also have ramifications; individuals will be unhappy if they consider the resocialisation a deviant group member undergoes as unsuitable (Trevino, 1992). This includes if the action taken is perceived as too lenient, as well as too harsh. Sanctions will be most effective when deviance is the result of deliberate misbehaviour. For example, the application of a sanctioning system will have the most effect on a group member who is deliberately withholding effort and free-riding on other members' efforts; it will have no effect on an individual who wishes to contribute but does not know how. In the case of the experiments here however, we can assume that resocialisation in the form of sanctions *was* an appropriate response, as the design of the experiment was such that

contributions should be easily made by group members. The newcomer was (ostensibly) informed how to do the task and allowed to carry out practice trials; therefore they should have been in a position to contribute towards the group's total number of puzzles answered. Indeed, the experiment was constructed with the very aim of ensuring that any lack of contributions from any group member could be attributed only to a lack of effort rather than skill. Rationally therefore, the presence of sanctions should have been sufficient to assure group members that the candidate would contribute and increase the likelihood of their granting admittance. The fact that they did not suggests that sanctioning systems must be implemented carefully in a group to be effective.

How resocialisation can be implemented successfully

In order to successfully utilise resocialisation, we can make several recommendations relating to its usage. Firstly, it is important to make sure the form of resocialisation is appropriate to the deviance displayed by group members. If resocialisation is purely punishment based, it will be ineffective on those members who are genuinely unable to contribute towards the group. Conversely, if it consists only of repeating the socialisation aspect of individual-group relations, it is unlikely to achieve the requisite amount of motivation from the member deliberately withholding effort; after all, this procedure will have already failed once. Therefore, it is unlikely that a single resocialisation strategy can be used in most groups; rather it may need to be tailored according the behaviour that has transpired and the reasons behind it.

Secondly, and in relation to this idea, is the importance of integrating resocialisation with any selection and socialisation strategies that may also be present in the group. It is doubtful that in a dynamic group environment, the presence of resocialisation alone will be sufficient to ensure cooperation from incoming members. This is because almost all groups have cultural norms and behavioural artefacts that are idiosyncratic; without knowing these a group member is not in a position to contribute however much they wish to. Incoming members must therefore in some way be furnished with the appropriate knowledge for the group, either through prior experience (selection) or through interactions with existing members (socialisation) which resocialisation can then be used to maintain.

The proviso may even be applied on a macroscopic level. Within our society, resocialisation exists as the justice system, which aims to punish those who break

group norms – i.e. *laws* – and reform them so they will become contributing members again. In addition to this however, behavioural constraints are also placed on us through socialisation in childhood by our parents who instil us with a sense of moral rectitude. The extent to which this morality is instilled within us dictates the extent to which resocialisation is required and can be practically applied. If all members of society were amoral, resocialisation would need to be applied to *all* cases of law-breaking with immediate effect – something that would place insurmountable demands on the resource available for it. In order to avoid this situation, we must use selection and socialisation variables to augment resocialisation.

A third and final consideration in the use of resocialisation is allowing existing group members to voice their opinions regarding its content. In this experiment, the sanctioning system presence and its method of operation were applied to the group by the experimenter; participants had no say in whether it was implemented which, as it has been remarked, can lead to negative affect towards it (cf. Abramson, Seligman, & Teasdale, 1978; Trevino, 1992; Van Vugt, Jepson, Hart & De Cremer, 2003). Groups which can decide amongst themselves when and how resocialisation is applied will most likely see it more as a benefit than an imposition, and will evaluate it more favourably. This in turn should increase the likelihood of resocialisation being accepted by the group, and give rise to a more favourable experience for members who are subjected to it and who witness it.

A summary of resocialisation and its use

Resocialisation *may* be a useful strategy in assuring group members of newcomer contributions, but its lack of effect here suggests that implementing it may be more hazardous than anticipated. A singular problem with resocialisation – particularly highly punitive forms that involve sanctions – is that its presence alerts group members to the possibility of free-riding. This may cause groups to be unwilling to add novel components to their group (such as a newcomer) whilst they are under threat from exploitation. Furthermore, the fact that resocialisation can often obviate the need for trust development within a group and may reduce exchanges amongst members to the purely material level suggests that their presence may be detrimental to group cohesion. Therefore, the implementation of resocialisation must be carried out with caution; its manifestation should be appropriate to the deviant behaviour that is displayed, and should be approved of by other group members who observe its

action. Engaging a group in the formation of any resocialisation practices it uses may also be useful in improving the effectiveness of such processes, as may be ensuring that resocialisation is complimented by selection and/or socialisation strategies. Ultimately, resocialisation is the last line of defence for a group prior to ejecting a deviant member; therefore its nature must be considered very carefully by members in order to maintain order and productivity within their ranks.

Integrating Experimental Findings into Existing Research

The findings from this research present some novel insights into how open groups acquire functional group members who will not exploit their endeavours; an area that so far is relatively unexplored in psychology. The following section aims to examine how the work in this thesis can be incorporated into existing research in the group dynamics literature in order to further our understanding of them.

Groups' reactions to new members

Initially, it was argued that group's feel a sense of distrust and suspicion towards newcomers who (may) enter their ranks. This may be due primarily to the fact that they may potentially destabilise the group through free-riding on the efforts of other members. However, other factors may also influence these feelings. For example the reasons behind a group requiring new members may also be relevant. A group that requires new members because they are failing may be *keener* to recruit new members (Arnold & Greenberg, 1980; Zander, 1976) but may still feel resentment towards newcomers as they are a manifestation of the group's incapability. A group may also feel negatively towards newcomer because their occurrence is unexpected and therefore an imposition (Ziller, 1965), or simple because they represent the forces of change (Ziller, Behringer, & Jansen, 1961).

The findings from these experiments indicate specific strategies that can be used by groups to assuage their fears regarding newcomers' contribution levels (i.e. selection, socialisation, and resocialisation). However, how these strategies may be used when attempting to address issues of negative affect towards the influx of newcomers *in general* has not been examined in great detail here. A significant aspect of established group members' aversion to the forces of change may relate to where the impetus for new members derives from. If those members who will be

taking on the newcomers are those who initiated their entrance, they will almost certainly offer less resistance towards them. Similarly, if group members perceive the need for new members as valid (e.g. because of *understaffing* – Cini, Moreland, & Levine, 1993), they will be more likely to accept them. However, if members of a group have newcomers thrust upon them and/or perceive the acquisition of other members to be unnecessary, we can expect a greater level of animosity towards the newcomers. If this is the case, directly involving newcomer-averse members in the implementation of recruitment strategies may go some way to reducing their negative feelings towards new members. Firstly, allowing involvement should increase the feelings of efficacy and self-control that old-timers have over the process, meaning they feel less "swept-up" by the influx of newcomers. Secondly, old-timers will be able to use recruitment artefacts they feel will be most likely to give rise to the behaviours *they* think are appropriate, again increasing their positivity towards the process. Of course, this involvement process needs to be voluntary for it to enamour old-timers to newcomers; otherwise it may lead to even more resentment as they are forced to deal directly with individuals they do not want in the group (cf. Feldman, 1994; Sutton & Louis, 1987). If a contingent of existing members do not feel the entry of new members is valid, and they do not wish to be involved in their recruitment there may be little other group members will able to do to persuade them otherwise. In this case, it may be best to prepare the newcomer for a certain amount of hostility and for group members to decide a) whether existing members will change their minds regarding new members over time; and b) if not, whether the admittance of new members is worth the potential cost of damaging group cohesion.

Social dilemmas and obtaining cooperation from groups

In the introduction of this thesis, we turned to social dilemma research in order ascertain what strategies are available to increase cooperation amongst those involved in an interdependence task. Three types of strategies were identified – individual, relational, and structural. These ideas were then applied to the concept of open groups in conjunction with the proposals from the Group Socialisation model (Moreland & Levine, 1982). The findings from this application now allow us to make some further comments regarding social dilemmas and the eliciting of cooperative responses in interdependence situations.

A proposal we can make regarding these solutions is that relational strategies may be the most useful in securing cooperation from those engaged in a social dilemma situation. This is because they may allow for the formation of affective bonds between members which in turn will provide intrinsic motivation to contribute. Furthermore, the existing social dilemma literature indicates that communication amongst group members increases cooperation rates (Orbell, Van De Kragt, & Dawes, 1988), indicating that any strategy that allows some form of meaningful interaction to take place between members can be beneficial. Any solution that relies on a dispositional impetus to elicit contributions is valuable for a group as it is cost effective; group members will self-regulate their cooperation meaning resources do not have to be expended in enforcing it. Although relational strategies that allow for interaction amongst members may be the most efficient for this, individual strategies may also be used. In this work, we have examined commitment as a form of intrinsic motivation in new members; however, other characteristics such as high self monitoring (De Cremer, Snyder, & Dewitt, 2001) or a propensity for feelings of guilt may also cause new members to contribute without outside intervention.

An interesting aspect of this work is how the acquisition of new members impinges on the contributions from those already engaged in a social dilemma. According to goal/expectation theory (Pruit & Kimmel, 1977) and structural/goal expectation theory (Yamagishi, 1988a), if mechanisms are in place that assure group members of contributions, this should act to encourage them to contribute themselves, either through reducing the likelihood of gaining the "sucker's" payoff (Schacke, 1991) or by increasing the efficacy of the groups' endeavours (Comer, 1995). A by-product of the recruitment process may therefore be that existing members' contributions to social dilemmas increase. However, the results from these experiments indicate that contributions actually *dropped* after the admittance of a new member, possibly as a result of lower visibility in a larger group (cf. Comer, 1995; Komorita & Lapworth, 1982). This seems to suggest that caution should be exercised when considering how the acquisition of new members may change levels of productivity, and that an increase in size may undermine a group's efforts to maximise its productivity.

Reputations and impression formation

Our ability to attend to the reputations of others is one of the main tools which permit large scale sociality amongst strangers. In a group context, reputations are enormously beneficial as they allow us to ascertain the suitability of a candidate for membership without the cost of interacting with them directly. Reputational information's utility may be twofold; firstly, the actual content of an individual's reputation allows us to make decision regarding interaction with them. So, a reputation that indicates cooperation is likely to facilitate candidate entry, whereas one that indicates possible defection will inhibit it. Secondly, the process of how a candidate *gained* a particular reputation may be diagnostic of their behaviour. That is, if an individual has gained a positive reputation over a series of interactions, it can be assumed they will act in a correspondent manner so as not to jeopardise it. In this sense, it is a form of *commitment* in that an individual has given up the chance to enact certain behaviour that would be detrimental to their reputation in order to influence others' behaviour towards them. Evidence for this has been found in Whitmeyer (2000) who reports that the ease of gaining a positive reputation moderates how "valuable" it is; a hard to obtain positive reputation is of greater utility than one which is easier to obtain.

Despite the implications for group dynamics, psychological research in the area of reputations is still rather limited (although for a notable exception see Emler, 1990). This work has offered some simple explorations of reputations which may be useful for initiating more in depth investigation of their nature and use; in particular, our construction of a simple typology of reputations depending on whether information is supplied via a third party (an acquired reputation) or via the subject of that information (a projected reputation). In our experimental work, a primary finding was support for the idea that groups attend to the reputations of potential group members when making decisions regarding their entry. Furthermore, it was clear that group members are aware of the biases that reputations may contain depending on their origin. Participants in Experiments 3 and 4 acted differently towards the same information when it came from different sources, implying they were aware of the (ulterior) motives that the source may have had when transmitting reputations. A similar finding was that fact that participants were willing to act on third-party reputational information even when these parties were unknown, suggesting that

simple heuristic reasoning may be used when assessing the trustworthiness of a source such as their status or social identity.

It also seems likely from these experiments that reputational information may be processed in a rapid heuristical manner, or be subjected to deep cogitation which leads to the ascription of traits outside the original content. This is evidenced in by the result of Experiment 3 which show a purportedly low committed candidate being given a greater chance of entry compared with a high committed candidate when candidates themselves were the source of information. Presumably, the way in which this low commitment information was processed gave rise to the perception of positive traits in candidates which facilitated their entry (although exactly what these traits are still unknown). In spite of this idea however, it is likely that most reputations are processed fairly quickly and superficially, and that only in certain cases are they subjected to deeper though; for example, if information conflicts with expectations (Clary & Tesser, 1983; Erber & Fiske, 1984; Hilton, Klein, & Von Hippel, 1991) or if the decisions based on the information are particularly critical (Neuberg & Fiske, 1987).

Thus far, the findings from this work have offered some starting points for the in depth study of reputations. However, the use of reputations in social interactions is extremely complex, and several suggestions are made in the subsequent section of this chapter about how this foundation work can be utilised in other studies to shed more light on this topic (see "Suggestions for Future Research", pg. 127).

Cooperation in the larger societal context.

In examining open groups, a main concern of this work was to examine how small groups may come to *expand*. Although literature exists that indicates how groups are formed (e.g. Tuckman, 1977; Worchel, 1996), it is difficult to reconcile the ideas contained within these studies with the large scale collaborative endeavours that exist in society such as multi-national corporations and charitable organisations. How do such structures grow from initially small pockets of cooperation?

Within this work, we have examined how such expansion is possible. Through the use of selective sociality, groups can allow entry to individuals who they believe will contribute towards the common good and refuse entry to those who they believe will be detrimental to the group's well-being. In a societal context, it should be noted that "entry" can consist of the time an individual becomes a visible social

entity who can contribute to society at large, rather than when they enter a particularly physical location. That is, as an individual matures in age, the expectancies on that person to "perform" and conform to societal norms as a "group member" grow and free-riding becomes less and less tolerated. Physical entry need not be excluded here however. A common usage of selection mechanisms in this vein relates to admittance of foreign individuals to the United Kingdom. Indeed, immigration issues are highly illustrative of the backlash newcomers may receive. Much of the dissention regarding asylum seekers is routed in the perceptions of free-riding (for example, by defrauding welfare systems), ably assisted by inflammatory examples given in the media. Similarly, the acquisition of work permits for those seeking residency often hinges on proving they possess skills which are of benefit to society in the form of qualifications or expertise.

Socialisation too has implications for immigration policy. The recent legislation proposed which may require ethnic UK residents to learn English highlights the ways in which the "group" attempts to impose group norms on its members. However, similar applications of this mechanism can be found in other aspects of societal control. The inclusion of "citizenship" lessons in the school curriculum is another method with which "new members" (i.e. young children who are beginning to experience autonomy) can come to internalise the norms of society, as can traditional forms of parental socialisation. We can also cite the prominence of the Church in history as a method of providing individuals with the motivation to follow a set of key doctrines in order to exact collective benefits.

The use of fines and prison sentences in society are obviously highly visible methods of resocialisation. The former for example discourages free-riding by making such actions costly. The latter too invokes this idea, and goes further by essentially removing a defecting individual from the "group" and preventing them access to the benefits of membership. However, the human propensity to gossip and our fascination with scandal (cf. McAndrew & Milenkovic, 2002) points to our use of *social sanctions* as means of eliciting norm conformance. Frequently, those individuals who are perceived as deviating from expectancies are ostracized by those around them. For example, celebrities who are perceived as positive role models experience rapid vilification if they are perceived as acting in an unsavory manner. Furthermore, cultural differences in the prominence of social standing goes some way to predicting conformity to norms. The Japanese for example are highly

conscientious of others' opinion of them (Davies & Ikeno, 2002; Yamagishi, 1987) and correspondingly display high levels of conformity to group norms.

This work then has provided an explanation for how large scale social endeavours can be maintained; namely, by placing mechanism within proto-structures to ensure that expansion to a larger, possibly even societal level will only include those individuals who will be beneficial. However, the fact that there *are* frequent incidents of free-riding in society suggests that these mechanisms are not fool-proof, and other researchers may like to consider what further strategies are available to groups to ensure the cooperation of new members.

Suggestions for Future Research

The experiments contained in this thesis have produced some illuminating findings into the way in which dynamic groups come to acquire new members, and what mechanisms are available in the recruitment process which will ensure that new members contribute towards the good of the group. In this section, we now discuss how the findings here can offer some avenues for future research in this area. In particular, we examine: a) further uses of reputations during recruitment; b) choosing between candidates and admitting more than one candidate; and c) the examination of selection, socialisation, and resocialisation in real-world groups.

Reputations in the acquisition of new members

The use of reputational information in the recruitment of new members is still a relatively new area of group dynamics, and one that has enormous ramifications for the field. In this work, we examine the simplest forms of reputations; i.e. information conveyed by a single individual who has had direct contact with the subject of that information. However, we are frequently bombarded with more than one opinion during the assessment of potential interaction partners. Indeed, Emler (1990) suggests that reputations are constructed collectively by the community to which an individual belongs rather than on an individual basis. Therefore, in line with this perspective it may be of interest to examine how views from multiple information sources are reconciled by those that receive them. It seems logical to assume that the more information that conveys the same message, the greater the persuasiveness of that message. However, it is also likely that the influence of each additional congruent message is lessened compared with its predecessor. Dynamic Social Impact theory

(Latane, 1981, 1996) – which models the way in which attitude change is transmitted across a populace – indicates that the relative influence of each additional source conveying the same message is diminished compared with the previous addition. So, if information regarding an individual's reputation from a single source is corroborated by a second, the change in persuasive influence will be great. By contrast, the change in influence when an additional source corroborates information that 100 others have imparted will be much smaller. The crucial aspect of reputations comes when individuals receive incongruent messages from multiple sources. How are these data integrated? Receivers of such messages may simply form opinions based on what the majority of sources tell them. Or, they may be more attuned to the reliability of those sources, which may add to the weight of certain information they are presented with. Indeed, the persuasiveness of a reputation source is another avenue of research. We have already demonstrated here how certain characteristics may lend greater or lesser credence to a source's message such as status and social identity. Other characteristics may also be relevant; for example, Kramer (1999) indicates that we may trust someone based on their *role*. So, a vicar will most likely be perceived as a more reliable source of information than a convict. Our *relationship* with a source may also be highly influential; we are more likely to listen to what our friends tell us compared with a stranger.

We may also like to consider the role of *expertise* in reputations. In real-life, we frequently purchase products based on their endorsements from those we trust such as industry experts or magazine reviewers. Does this persuasiveness generalise to other situations? Do we see those that advise us in one aspect of our lives as "good" sources of information and listen to them regardless of the topic? Yaniv and Kleinberger (2000) found that people readily disregarded advice they were given from others, even when these others had been proved right in the past. This suggests that persuasiveness of others' opinions regarding potential interaction partners may be fragile, even when they are viable.

Characteristics of the situation itself may also alter the use of reputational information. Signal Detection Theory (Green & Swets, 1966) indicates that individuals vary in their identification of a given stimuli based on something termed their *criterion*. This is the minimal level of sensory activation an individual will need to posses before they claim that a stimulus is present. Crucially, this criterion can vary depending on the situation. For example, a surgeon will require a high criterion

for opting to perform invasive surgery on a possible brain tumour – they must be very sure that such a growth is present. By contrast, they may have a much lower criterion for the removal of a suspicious pockmark on an individual's arm – in this case it is better to err on the side of caution.

This idea may also apply to the attendance to reputations. If the goal of a potential interaction is particularly serious or dangerous, reputational information will be most likely be attended to very differently than if the situation is more benign. In the former case, individuals attending to reputations will no doubt need a greater amount of persuasion to enter into an interaction, and little to refuse it. In the latter, they will be less discerning as they will have little to lose if their interaction partner reneges on their agreement. Subsequent research may therefore wish to vary the criticality of the situation in which individuals are engaged to empirically demonstrate whether it alters the use of reputational information.

Selecting from a larger group of candidates

In the experiments carried out here, participants were only required to make a decision regarding the entry of a single candidate for membership. In real-life groups however, there are frequently multiple candidates who are eligible for entry, and group members may be able to admit more than one candidate to their ranks. As such, there may be additional factors that come into play during multiple candidate entry which may benefit from additional research. One such consideration relates to which dimensions a group chooses to evaluate new members on. How do groups compare the pros and cons of different members if they each possess desirable characteristics? It may be the case that certain candidate qualities are more general in how important they are to the group; for example, commitment is an important trait to be displayed by all group members (indeed, this is one of the reasons it was chosen for study here). How then would a group react if presented with a new member that displayed high levels of commitment, but possessed little else of merit? How would this individual's chances of entry stand against a second candidate who displayed high levels of skill relating the group's task (a more specific quality), but little commitment?

It may be that this problem can be resolved by the presence of other factors within the group. For example, we have shown in this work that socialisation is an influential force in the admittance of new members. Perhaps its presence in a group

would convince members to admit a lower committed candidate for membership – provided they possessed other useful skills?

The way in which information relating to candidates is *framed* is also likely to impinge on a group's perception of those individuals. Tversky and Kahneman (1981) report that information that is identical in content can be attended to very differently depending on whether it is framed positively (i.e. in terms of gains) compared with if it is framed negatively (i.e. in terms of losses). Consider a group that specifies five criteria for a candidate to fulfil to become a member, and two candidates for entry have succeeded in accomplishing three. We can postulate that if one candidate's fulfilment of selection criteria is given in terms of the criteria they have succeeded in attaining (i.e. "the candidate has achieved three of the required criteria"), and another in terms of those they have *failed* to attain (i.e. "the candidate has failed to achieve two of the required criteria"), the group will respond more favourably to the former than the latter, despite the fact that both candidates will essentially be the same.

The admittance of multiple candidates may also have consequences for the group which they join. It is likely that if groups find the process of acquiring a single new member aversive, then acquiring several will be even more so. Furthermore, the misgivings a group has in this case may not be unfounded. Although it has been stated that entering a group with other people is less stressful and ultimately easier for new members (e.g. Van Maanen, 1976; Zander, 1976), a problem arises in that contingents of newcomers may form tight boundaries between themselves and the rest of the group. Moreland (1985) reports that new members in a group are more likely to limit their interactions to other individuals they believe are also new. Therefore, there may be a tendency for groups of newcomers to form their own subculture which may make control of their behaviour more difficult, as members will be able to support each other and resist efforts by the larger group to conform to behavioural precepts. This in turn may reduce the productivity of newcomer sub-units, and the group overall as a result. In a similar vein, the admittance of new members increases the size of group which, as we have mentioned above, may reduce the contributions of existing members. We can expect then that this problem may be even more prevalent when several new members are admitted at once as this further decreases the visibility and potential for evaluation of current members.

In summary then, the research detailed in this work offers a starting point for a great deal of additional work on the acquisition of new members from a more group-

centric perspective. Of particular interest in subsequent research may be the processes involved in comparing different candidates for membership, and the ways in which the admittance of multiple candidates may impinge on a group's productivity and internal relationships.

Cooperation in real-world groups

We have mentioned in the preceding section several applications of the findings here to the ways in which cooperation is maintained in society. However, as we have relied solely on laboratory experiments, it may be useful to examine the use of selection, socialisation, and resocialisation in a more naturalistic setting to fully flesh out the arguments here.

To begin with, members of the public may be surveyed to examine their feelings regarding societal free-riding such as juvenile crime or illegal immigration. It could then be seen to what extent the use of the mechanisms examined here could modify any fears regarding free-riding that may be had. For example, advocates for the use of ID cards have cited the fact that it would reduce incidents of benefit fraud and crime. However, others have argued that it would be an impingement on civil liberties and freedom. So, the introduction of ID cards may increases feelings of assurance against free-riding, but may not be beneficial to the overall cohesion and solidarity of society.

The recruitment practices of employers may also be a fruitful avenue for this research. In particular, the ways in which cooperation mechanisms are *traded-off* may be enlightening. Organisations which specify difficult-to-attain criteria for group members may utilise less effort in socialisation practices post entry as once a candidate has been granted entry, existing members assume they already possess the skills and desire to contribute. Conversely, those groups that use strong socialisation practices may feel this will be sufficient to elicit cooperation from newcomers and specify lower criteria accordingly. Anecdotal evidence for these ideas does exist; for example, graduate recruitment in organisations often entails a candidate gaining a particular grade in their chosen degree topic; this individual is then heavily indoctrinated into the company via training seminars, the appointment of a mentor, and/or exposure to the inner workings of the company. By contrast, in University departments individuals wishing to retain high level research positions will be

required to display extensive credentials; once entry has been gained however little formal socialisation will be instigated.

To gain valid evidence for these ideas, a survey of the recruitment practices of various organisations could be taken to examine whether any such trade-off exists. Furthermore, the extent to which selection, socialisation, and resocialisation are implemented by an employer could be compared against the benefits of employment. It may be that organisation which offer large rewards - both fiscal and in terms of status – require newcomers to undergo much more rigorous recruitment practices that those with relatively lower benefits.

Final Conclusions

This research was instigated through the consideration of a paradox groups frequently face: how to acquire new members which are needed to achieve optimum performance without leaving one open to exploitation by free-riding individuals. Based on previous research examining the elicitation of cooperation in interdependence situations (i.e. social dilemma research), and that detailing the dynamic relations between individuals and groups (such as the Group Socialisation model), three mechanisms were posited which could be implemented by groups to resolve this problem: selection, socialisation, and resocialisation. This research then aimed to examine the effectiveness of these mechanisms in securing a candidate for membership's position within a group.

The findings here indicate that selection and socialisation strategies are both effective methods of increasing a group's confidence that new members will contribute towards group goals. Furthermore, the ways in which these strategies alter group members' confidence seems to be dependent on the way in which they motivate new members. Those focusing on intrinsic motivation appear to correspond with increased feelings of trust as evidenced by the mediational analyses in Experiments 1 and 2. By contrast, those focusing on extrinsic motivation (such as the form of socialisation used in Experiment 3) had no reliable influence on trust; instead they appeared to be more influential on feelings of *assurance*. In the long run, strategies that utilise the former are likely to be more preferable for the group as they will lead to a greater likelihood of pro-group behaviours and will persist in the absence of an external impetus to contribute. However, these types of strategy may be the most

time consuming and a group may not be willing to invest the resources to instigate them if they can achieve satisfactory (rather than optimum) performance from a newcomer via other methods.

Reputations as a specific selection strategy are also deserving of special consideration as they appear to be highly influential in the acquisition process. Groups appear to be sensitive to impression management and source reliability issues when attending to reputational information. The prevalence of reputations in everyday society – particularly their ever expanding use in interactions via the Internet- means their inner workings warrant close attention.

The resocialisation strategies used here do not appear effective in the acquisition of new members; however, this likely due to their method of implementation in these experiments rather than as a characteristic of them per se. It is apparent however that resocialisation that emphasises harsh punishment of deviant members may not be as effective in reassuring existing members of newcomer cooperation as was initially thought. This suggests that great care must be taken when implementing such strategies to ensure that they are perceived in a positive light and do not alienate existing members or increase their distrust of new members.

Overall then, this thesis has offered some enlightening and useful extensions of the group dynamics literature by expansively examining the process of member acquisition in open groups. Primarily, we have focused how such groups can acquire new members and feel confident that they will contribute towards the collective. We have also indicated how this research impinges on cooperation on a societal level, and how the processes of selection, socialisation, and resocialisation permit the expansion of groups to facilitate large scale collaborative endeavours. However, it is apparent that the findings here are merely the tip of the iceberg. Recruiting new members in real-world groups is frequently complex, with issues such as multiple candidate entry, conflicting information sources and the resolution of relevant evaluative dimensions for candidates abounding. Therefore, there is still a great deal more research that can be carried out to further examine and appreciate the intricacies of the acquisition of new members to groups.

REFERENCES

Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978). "Learned helplessness in humans: Critique and reformulation." *Journal of Abnormal Psychology, 87*, 49-74.

Altman, I., & Taylor, D. (1973). *Social penetration: the development of interpersonal relationships*. New York: Holt, Rinehart, and Winston.

Arnold, D.W. & Greenberg, C.I. (1980). Deviate rejection within differentially manned groups. *Social Psychology Quarterly, 43,* 419-424.

Aronson E. & Mills J. (1959). The effect of severity of initiation on liking for a group. *Journal of Abnormal and Social Psychology, 59,* 177-181.

Arrow, H., & McGrath, J. E. (1995). Membership dynamics in groups at work: A theoretical framework. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior, 17*, 373-411. Greenwich, CT: JAI Press.

Arrow H., McGrath J.E., & Berdahl J.L. (2000). *Small Groups as Complex Systems: Formation, Coordination, Development, and Adaptation.* Thousand Oaks: Sage Publications.

Axelrod, R. (1984). *The evolution of cooperation.* New York: Basic Books.

Axelrod, R. & Hamilton W.D. (1981). The evolution of cooperation. *Science, 211,* 1390-1396.

Ba S. (2001). Establishing online trust through a community responsibility system. *Decision Support Systems, 31,* 323-336.

Bandura, A. (1986) *Social foundations of thought and action.* Englewood Cliffs, NJ: Prentice Hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529.

Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (vol 6, pp. 1-62), New York: Academic Press.

Blascovich, J., Mendes, W. B., Hunter, S. & Salomon, K. (1999). Social facilitation as challenge and threat. *Journal of Personality and Social Psychology, 77,* 68-77.

Bonacich P., Shure G.H., Kahan J.P., & Meeker R.J. (1976). Cooperation and group size in the N-person social dilemma. *Journal of Conflict Resolution, 20,* 687-706.

Bond, C. F. (1982). Social facilitation: A self-presentational view. *Journal of Personality and Social Psychology, 42,* 1042-1050.

Bond, C. F., Atoum, A. O., & Van Leeuwen, M. D. (1996). Social impairment of complex learning in the wake of public embarrassment. *Basic & Applied Social Psychology, 18*, 31-44

Bowles S. & Gintis H. (1996). The moral economy of communities: structured populations and the evolution of pro-social norms. *Evolution and Human Behavior, 19,* 3-25.

Brewer, M.B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin, 86*, 307-324.

Brewer, M. B. (1996). In group favouritism: the subtle side of intergroup discrimination. In D. M. Messick & A. Tenbrunsel (Eds), *Codes of conduct: behavioural research and business ethics,* (pp 160-171). New York: Russell Sage Foundation.

Brewer, M.B., & Kramer, R.M. (1986). Choice behavior in social dilemmas: Effects of social identity, group size and decision framing. *Journal of Personality and Social Psychology, 3*, 543-549.

Bruins J.J., Liebrand W.B.G., & Wilke H.A.M. (1989). Short note about the saliency of fear and greed in social dilemmas. *European Journal of Social Psychology, 19,* 155-161.

Buss D.M. (1999). *Evolutionary Psychology: The new science of the mind.* Boston: Allyn and Bacon.

Cartwright, D. & Zander, A. (1968). *Group dynamics: research and theory.* New York: Harper & Row.

Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior.* New York: Springer.

Chen X. & Bachrach D.G. (2003). Tolerance of free-riding: the effects of defection size, defection pattern, and social orientation in a repeated public goods dilemma. *Organizational Behavior and Human Decision Processes, 90,* 139-147.

Chen X.P. & Komorita S.S. (1994). The effect of communication and commitment in a public goods social dilemma. *Organizational Behavior and Human Decision Processes, 60,* 367-386.

Cini M.A., Moreland R.L., & Levine J.M. (1993). Group staffing levels and responses to prospective and new group members. *Journal of Personality and Social Psychology, 4,* 723-734.

Clark M.S. (1981). Noncomparibility of benefits given and received: a cue to the existence of friendship. *Social Psychology Quarterly, 44,* 375-381.

Clary, E. G., & Tesser, A. (1983). Reactions to unexpected events: The naive scientist and interpretive activity. *Personality and Social Psychology Bulletin, 9*, 609-620.

Comer D.R. (1995). A model of social loafing in real work groups. *Human Relations, 48,* 647-667.

Cosmides L. & Tooby J. (1992). Cognitive adaptations for social exchange. In J.H.Barklow & L.Cosmides (Eds.), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture* (pp. 163-228). London: Oxford University Press.

Cummins D.D. (1999). Cheater detection is modified by social rank: the impact of dominance on the evolution of cognitive functions. *Evolution and Human Behavior, 20,* 229-248.

Dawes R.M. (1980). Social dilemmas. *Annual Review of Psychology, 31,* 169-193.

Davies, R., & Ikeno, O. (2002). *The Japanese mind: understanding contemporary Japanese culture.* Boston: Tuttle Publishing.

Dawes R.M., McTavish J., & Shaklee H. (1997). Behavior, communication, and assumptions about other people's behavior in a comons dilemma situation. *Journal of Personality and Social Psychology, 35,* 1-11.

Dawes R.M. & Messick D.M. (2000). Social dilemmas. *International Journal of Psychology, 35,* 111-116.

De Bruin E.N.M. & Van Lange P.A.M. (1999). Impression formation and cooperative behaviour. *European Journal of Social Psychology, 29,* 305-328.

De Bruin E.N.M. & Van Lange P.A.M. (2000). What people look for in others: influences of the perceiver and the perceived on information selection. *Personality and Social Psychology Bulletin, 26,* 206-219.

De Cremer D. & Van Vugt M. (1999). Social identification effects in social dilemmas: a transformation of motives. *European Journal of Social Psychology, 29,* 871-893.

De Cremer D. & Van Vugt M. (2002). Intergroup and intragroup aspects of leadership in social dilemmas: a relational model of cooperation. *Journal of Experimental Social Psychology, 38,* 126-136.

De Cremer D., Synder M., & Dewitte S. (2001). "The less I trust, the less I contribute (or not)?" The effects of trust, accountability, and self-monitoring in social dilemmas. *European Journal of Social Psychology, 31,* 93-107.

Eagly A.H., Wood W., & Chaiken S. (1987). Causal inferences about communicators and their effect on opinion change. *Journal of Personality and Social Psychology, 36,* 424-435.

Emler N. (1990). A social psychology of reputations. *European Review of Social Psychology 1*, 171-197.

Erber R, Fiske ST. 1984. Outcome dependence and attention to inconsistent information. *Journal of Personality and Social Psychology, 47*, 709–26.

Etzioni, A. (1961). *Modern organizations.* New York, NY: Free Press of Glencoe.

Etzioni, A. (2000). Social norms: internalization, persuasion, and history. *Law and Society Review, 34*, 157-178.

Fehr E. & Rockenbach B. (2003). Detrimental effects of sanctions on human altruism. *Nature, 422,* 137-140.

Fehr E. & Fischbacher U. (2003). The nature of human altruism. *Nature, 425*, 785-791.

Falcione, R. L. & Wilson, C. E. (1988). Socialization process in organizations. In G. M. Goldhaber, & G. A. Barnett (Eds.), *Handbook of Organizational Communication* (pp. 151-169). Norwood, NJ: Ablex Publishing Corporation.

Feldman D.C. (1994). Who's socializing whom? The impact of socializing newcomers on insiders, work groups, and organizations. *Human Resource Management Review, 4,* 213-233.

Festinger, L.A. (1957). *A theory of cognitive dissonance.* Stanford: Stanford University Press.

Fine G.A. & Holyfield L. (1996). Secrecy, trust and dangerous leisure: generating group cohesion in voluntary organizations. *Social Psychology Quarterly, 59,* 22-38.

Forehand, M. R., & Grier, S. (2003). When is honesty the best policy? The effect of stated company intent on consumer scepticism, *Journal of Consumer Psychology, 13*, 349-356.

Fox J. & Guyer M. (1978). Public choice and cooperation in n-person prisoner's dilemma. *Journal of Conflict Resolution, 22,* 468-481.

Fragale A.R. & Heath C. (2004). Evolving informational credentials: the (mis)attribution of believable facts to credible sources. *Personality and Social Psychology Bulletin, 30,* 225-236.

Frank R.H. (2001). Cooperation through emotional commitment. In R. M. Nesse (Ed.), *Evolution and the Capacity for Commitment* (pp. 57-76). New York: Russell Sage Foundation.

Goodman, L. A. (1960). On the exact variance of products. *Journal of the American Statistical Association, 55*, 708-713.

Green, D. M., & Swets, J. A. (1966) *Signal Detection Theory and Psychophysics*. New York: Wiley.

Hambuger H., Guyer M., & Fox J. (1975). Group size and cooperation. *Journal of Conflict Resolution, 19,* 503-531.

Hamilton, W. D. (1964) The evolution of social behavior I. *Journal of Theoretical Biology, 7*, 1-16

Hardin G.J. (1968). The tragedy of the commons. *Science, 162,* 1243-1248.

Harkins S.G. (1987). Social loafing and social facilitation. *Journal of Experimental Social Psychology, 23,* 1-18.

Hayashi N., Ostrom E., Walker J., & Yamagishi T. (1999). Reciprocity, trust, and the sense of control. *Rationality and Society, 11*, 27-46.

Henrich, J., & Gil-White, F. J. (2001) The evolution of prestige: Freely conferred status as a mechanism for enhancing the benefits of cultural transmission. *Evolution and human behavior, 22.* 165-196.

Hilton, J. L., Klein, J. G., & von Hippel, W. (1991). Attention allocation and impression formation. *Personality and Social Psychology Bulletin, 17*, 548-559.

Hoegl, M., & Parboteeah, K. P.(2003). Goal setting and team performance in innovative projects: on the moderating role of teamwork quality. *Small Group Research, 34*: 3-19.

Hwang P. & Burgers W.P. (1997). Properties of trust: an analytical view. *Organizational Behavior and Human Decision Processes, 69,* 67-73.

Jerdee T. & Rosen B. (1974). Effects of opportunity to communicate and visibility of individual decisions on behavior in the common interest. *Journal of Applied Psychology, 5,* 712-716.

Jones E.E. & Pittman T.S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological Perspectives on the Self* (pp. 231-263). London: Erlbaum.

Jost, J. T., & Azzi, A. E. (1996). Microjustice and macrojustice in the allocation of resources between experimental groups. *Journal of Social Psychology*, 136(3), 349-365.

Kagel, J. H., Kim, C., & Moser, D. (1996), Fairness in ultimatum games with asymmetric information and asymmetric payoffs. *Games and Economic Behavior, 13*, 100-110.

Kanter R.M. (1968). Commitment and social organizations: a study of commitment mechanisms in utopian communities. *American Sociological Review, 33,* 499-517.

Kenrick D.T., Maner J.K., Butner J., Li N.P., Becker D.V., & Schaller M. (2002). Dynamical evolutionary psychology: mapping the domains of the new interactionist paradigm. *Personality and Social Psychology Review, 6,* 347-356.

Kerr N.L. (1983). Motivation losses in small groups: a social dilemma analysis. *Journal of Personality and Social Psychology, 45*, 819-828.

Kerr N.L. (1999). Anonymity and social control in social dilemmas. In M.Foddy & M. Smithson (Eds.), *Resolving Social Dilemmas: Dynamic, Structural, and Intergroup Aspects* (pp. 103-119). Philadelphia: Psychology Press.

Kerr N.L. & Bruun S.E. (1983). Dispensability of member effort and group motivation losses: free-rider effects. *Journal of Personality and Social Psychology, 44,* 78-94.

Kerr N.L. & Kaufman-Gilliland C.M. (1994). Communication, commitment, and cooperation in social dilemmas. *Journal of Personality and Social Psychology, 64,* 513-529.

Komorita S. S. & Lapworth C.W. (1982). Cooperative choice among individuals versus groups in an N-person social dilemma. *Journal of Personality and Social Psychology, 42,* 487-496.

Kramer R.M. (1999). Trust and distrust in organizations: emerging perspectives, enduring questions. *Annual Review of Psychology, 50*, 569-598.

Latane B. (1981). The psychology of social impact. *American Psychologist, 36*, 343-356.

Latane B. (1996). Dynamic social impact: the creation of culture by communication. *Journal of Communication, 46*, 13-25.

Lea, M., Spears, R. & de Groot, D. (2001). Knowing me, knowing you: Anonymity effects on social identity processes within groups. *Personality and Social Psychology Bulletin,27,* 526-537.

Levine J.M., Bogart L.M., & Zdaniuk B. (1996). Impact of anticipated group membership on cognition. In Sorrentino R.M. & Higgins E.T. (Eds.), *Handbook of motivation and cognition* (pp. 531-569). New York: Guildford Press.

Levine J.M. & Moreland R.L. (1990). Progress in small group research. *Annual Review of Psychology, 41*, 585-634.

Levine J.M., Moreland R.L., & Hausmann L.R.M. (2003). Managing group compositions: inclusive and exclusive role transitions. D.Abrams, J.M.Marques, and M.A.Hogg. The Social Psychology of Inclusion and Exclusion. Philadelphia, Psychology Press.

Levine, J. M., Moreland, R. L., & Hausmann, L. M. R. (2003). Managing group composition: Inclusive and exclusive role transitions. In D. Abrams, J. M. Marques, & M. A. Hogg (Eds.), *The social psychology of inclusion and exclusion.* Philadelphia: Psychology Press.

Lewin, R. (1989). *Human evolution: an illustrated introduction.* Boston: Blackwell Scientific Publications.

Liebrand W.B.G., Jansen R.W.T.L., Rijken V.M., & Suhre C.J.M. (1986). Might over morality: social values and the perception of other players in experimental games. *Journal of Experimental Social Psychology, 22,* 203-215.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: a 35-year odyssey. *American Psychologist, 57*, 705-717.

Lois J. (1999). Socialization to heroism: individualism and collectivsm in a voluntary search and rescue group. *Social Psychology Quarterly, 62,* 117-135.

Louis, M. R. (1980). Surprise and sense making: what newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly, 25,* 226-251.

Matsushima, R., & Shiomi, K. (2001). The effect of hesitancy toward and the motivation for self-disclosure on loneliness among Japanese high school students. *Social Behavior and Personality, 29*(7), 661-670.

Mayer R.C. & Schoorman F.D. (1992). Predicting participation and production outcomes through a two-dimensional model of organizational commitment. *Academy of Management Journal, 35,* 671-684.

McAndrew F.T. & Milenkovic M.A. (2002). Of tabloids and family secrets: the evolutionary psychology of gossip. *Journal of Applied Social Psychology, 35,* 1064-1082.

McFarlane Shore L, Barksdale K, & Shore T.H. (1995). Managerial perceptions of employee commitment to the organization. *Academy of Management Journal, 38,* 1593-1615.

McGrath J.E. (1991). Time, interaction, and performance (TIP): a theory of groups. *Small Group Research, 22,* 147-174.

McKenna K.Y.A. & Green A.S. (2002). Virtual group dynamics. *Group Dynamics: Theory, Research, and Practice, 6,* 116-127.

Messick D.M. & McClintock C.G. (1968). Motivational basis of choice in experimental games. *Journal of Experimental Social Psychology, 4,* 1-25.

Messick D.M., Wilke H., Brewer M.B., Kramer R.M., Zemke P.E., & Lui L. (1983). Individual adaptations and structural change as solutions to social dilemmas. *Journal of Personality and Social Psychology, 44,* 294-309.

Messick D.M. & Kramer R.M. (2001). Trust as a form of shallow morality. In Cook K. (Ed.), *Trust in Society* (pp. 89-117). Russell Sage Foundation.

Meyer J.P. & Allen N.J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1,* 61-89.

Meyerson D, Weick K.E., & Kramer R.M. (1996). Swift trust and temporary groups. In R.M.Kramer & T.R.Tyler (Eds.), *Trust in Organizations: Frontiers of Theory and Research* (pp. 166-195). Thousand Oaks: Sage Publications.

Milgram, S. (1963). A behavioral study of obedience. *Journal of Abnormal and Social Psychology, 67*, 371-378.

Milinski, M., Semmann, D., & Krambeck, H. (2002). Reputation helps solve the 'tragedy of the commons'. *Nature, 415,* 424-426.

Moreland R.L. (1985). Social categorization and the assimilation of "new" group members. *Journal of Personality and Social Psychology, 48,* 1173-1900.

Moreland R.L. & Levine J.M. (1982). Socialization in small groups: temporal changes in individual-group relations. *Advances in Experimental Social Psychology, 15,* 137-192.

Moreland, R. L., & Levine, J. M. (1989). Newcomers and oldtimers in small groups. In P. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 143-186). Hillsdale, NJ: Erlbaum.

Moreland R.L. & Levine J.M. (1992). The composition of small groups. *Advances in Group Processes, 9,* 237-280.

Moreland R.L. & Levine J.M. (2002). Socialization and trust in work groups. *Group Processes and Intergroup Relations, 5,* 185-201.

Mulvey, P. W., & Klein, H. J. (1998). The impact of perceived loafing and collective efficacy on group goal processes and group performance. *Organizational Behavior and Human Decision Processes, 74,* 62-87.

Murnighan J.K. & Roth A.E. (1983). Expecting continued play in Prisoner's Dilemma games. *Journal of Conflict Resolution, 27,* 279-300.

Nesse R.M. (2001). Natural selection and the capacity for subjective commitment. In R.M.Nesse (Ed.), *Evolution and the Capacity for Commitment* (pp. 1-44). New York: Russel Sage Foundation.

Neuberg S.L. & Fiske S.T. (1987). Motivational influences on impression formation: outcome dependency, accuracy-driven, and individuating processes. *Journal of Personality and Social Psychology, 53,* 431-444.

Nijstad, B., Stroebe, W. & Lodewijkx, H.F.M. (2003). Production blocking and idea generation: Does blocking interfere with cognitive processes? *Journal of Experimental Social Psychology, 39*, 531-548.

Orbell J.M. & Dawes R.M. (1993). Social welfare, cooperators' advantage and the option of not playing the game. *American Sociological Review, 58,* 787-800.

Orbell, J., Van de Kragt, A. J., & Dawes, R. M. (1988). Explaining discussion-induced cooperation. *Journal of Personality and Social Psychology, 54,* 811-819

Parks C.D., Sanna L.J., & Berel S.R. (2001). Actions of similar others as inducements to cooperate in social dilemmas. *Personality and Social Psychology Bulletin, 3,* 345-354.

Pruitt, D. G. and M .J. Kimmel (1977). "Twenty years of experimental gaming: Critique, synthesis, and suggestions for the future." *Annual Review of Psychology*, 28, 363-392.

Rafaeli, S. & Noy, A. (2002), Online auctions, messaging, communication and social facilitation: a simulation and experimental evidence, *European Journal of Information Systems, 11*, 196-207.

Rioux, S. & Penner, L. A. (2001). The causes of organizational citizenship behavior: a motivational analysis. *Journal of Applied Psychology*, 86, 1306-1314

Rusbult C.E. (1980). Commitment and satisfaction in romantic associations: a test of the investment model. *Journal of Experimental Social Psychology, 16,* 172-186.

Saks. A. M., & Ashforth, B. E. (1997). Organizational socialization: Making sense of the past and present as a prologue for the future. *Journal of Vocational Behavior, 51,* 234-279.

Samuelson C.D. (1991). Perceived task difficulty, causal attributions, and preferences for structural change in resource dilemmas. *Personality and Social Psychology Bulletin, 17,* 181-187.

Scnake M.E. (1991). Equity in effort: the "sucker effect" in co-acting groups. *Journal of Management, 17,* 41-55.

Sloan Wilson, D. S.,Wilczynski, C.,Wells, A., & Weiser, L. (2000). Gossip and other aspects of language as group-level adaptations. In C. Heyes & L. Huber (Eds.), Cognition and Evolution (pp. 347-365). Cambridge, MA: MIT Press.

Staw B.M., Sandelands L.E., & Dutton J.E. (1981). Threat-rigidity effects in organizational behavior: a multilevel analysis. *Administrative Science Quarterly, 26,* 501-524.

Sutton R.LI. & Louis M.R. (1987). How selecting and socializing newcomers influences insiders. *Human Resource Management, 26,* 347-361.

Tajfel, H. (1978). *Differentiation between social groups: studies in the social psychology of intergroup relations.* London: Academic Press.

Tajfel, H., & Turner, J. (1970). Am intergrative theory of intergroup conflict. In W. Austin & S. Worchel (Eds), *The social psychology of intergroup relations* (pp. 33-47). Montery, CA: Brooks/Cole.

Tenbrunsel A.E. & Messick D.M. (1999). Sanctioning systems, decision frames, and co-operation. *Administrative Science Quarterly, 44,* 684-707.

Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups.* New York: Wiley.

Trevino L.K. (1992). The social effects of punishment in organizations: a justice perspective. *Academy of Management Review, 17,* 647-676.

Trivers R.L. (1971). The evolution or reciprocal altruism. *Quarterly Review of Biology, 46,* 35-57.

Tuckman B.W. & Jensen M.A.C. (1977). Stages of small-group development revisited. *Group and Organization Studies, 2,* 419-427.

Tversky, A. & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, *211*, 453 - 458.

Tyler, T. R. (2002). Leadership and cooperation in groups. *American Behavioral Scientist, 45,* 769-782.

Vallacher R.R., Read S.J., & Nowak A. (2002). The dynamical perspective in personality and social psychology. *Personality and Social Psychology Review, 6,* 264-273.

Van Dijk E., Wilke H., Wilke M., & Metman L. (1999). What information do we use in social dilemmas? Environmental uncertainty and the employment of coordination rules. *Journal of Experimental Social Psychology, 35,* 109-135.

Van Lange P.A.M. & Kuhlman D.M. (1994). Social value orientation and impressions of partners honesty and intelligence: a test of the might versus morality effect. *Journal of Personality and Social Psychology, 67,* 126-141.

Van Maanen J. (1976). Breaking in: Socialization to work. In Dubin R. (Ed.), *Handbook of Work, Organization, and Society* (pp. 67-130). Chicago: Rand McNally.

Van Maanen J. (1978). People processing: strategies of organizational socialization. *Organizational Dynamics, 7,* 19-36.

Van Vugt M. & De Cremer D. (1999). Leadership in Social Dilemmas: the effect of group identification on collective actions to provide public goods. *Journal of Personality and Social Psychology, 76,* 587-599.

Van Vugt, M., & Hart, C. M. (2004). Social identity as social glue: The origins of group loyalty. *Journal of Personality and Social Psychology, 86*, 585-598.

Van Vugt M., Jepson S.F., Hart C., & De Cremer D. (2004). Why autocratic leadership might fail in solving public good dilemmas: the importance of group stability. *Journal of Experimental Social Psychology, 40*, 1-13.

Van Vugt, M. & Snyder, M. (2002). Cooperation in the 21st Century: Fostering community action and civic participation. *American Behavioral Scientist, 45,* 761-918.

Van Vugt, M., Snyder, M., Tyler, T., & Biel, A. (2000). *Cooperation in modern society: promoting the welfare of communities, states, and organisations.* London: Routledge.

Vittengl, J. R. & Holt, C. S. (2000). Getting acquainted: The relationship of self-disclosure and social attraction to positive affect. *Journal of Social and Personal Relationships, 17*, 53-66.

Vonk, R. (1999). Impression formation and impression management: Motives, traits, and likeability inferred from self-promoting and self-deprecating behavior. *Social Cognition, 17,* 390-412.

Wanous J.P. (1980). *Organizational Entry: Recruitment, Selection, and Socialization of Newcomers*. Michigan: Addison-Wesley.

Whitmeyer J.M. (2000). Effects of positive reputation systems. *Social Science Research, 29,* 188-207.

Widdicombe S. & Wooffitt R. (1990). "Being" versus "doing" punk: on achieving authenticity as a member. *Journal of Language and Social Psychology, 9,* 257-277.

Worchel S. (1996). Emphasizing the social nature of groups in a developmental framework. In J.L.Nye & A.M.Brower (Eds.), *What's Social About Social Cognition? Research on Socially Shared Cognition in Small Groups* (pp. 261-282). Thousand Oaks: Sage Publications.

Yamagishi T. (1986). The provision of a sanctioning system as a public good. *Journal of Personality and Social Psychology, 51,* 110-116.

Yamagishi T. (1988a). Exit from the group as an Individualistic solution to the free rider problem in the United States and Japan. *Journal of Experimental Social Psychology, 24,* 530-542.

Yamagishi T. (1988b). Seriousness of social dilemmas and the provision of a sanctioning system. *Social Psychology Quarterly, 51,* 32-42.

Yamagishi T. & Cook K.S. (1993). Generalized exchange and social dilemmas. *Social Psychology Quarterly, 56*, 235-248.

Yamagishi T. & Yamagishi M. (1994). Trust and commitment in the United States and Japan. *Motivation and Emotion, 18,* 129-166.

Yaniv I. & Kleinberger E. (2000). Advice taking in decision making: egocentric discounting and reputation formation. *Organizational Behavior and Human Decision Processes, 83,* 260-281.

Zajonc, R. B., (1965). Social facilitation. *Science, 149,* 269-274.

Zander A. (1976). The psychology of removing group members and recruiting new ones. *Human Relations, 29,* 969-987.

Ziller R.C. (1965). Toward a theory of open and closed groups. *Psychological Bulletin, 64,* 164-182.

Ziller, R. C., Behringer, R. D., & Jansen, M. J. (1961). The newcomer in open and closed groups. *Journal of Applied Psychology*, *45*, 55-58.

Zucker L.G. (1986). Production of trust: institutional sources of economic structure, 1840-1920. *Research in Organizational Behavior*. 8: 53-111.