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Virtue summons the fury

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Publication date:
2005

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Stouten, J. (2005). *Virtue summons the fury: Coordination rules and fairness in social dilemmas*. [s.n.].

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Virtue Summons the Fury

Coordination Rules and Fairness
in Social Dilemmas



Jeroen Stouten



BIBLIOTHEEK

Virtue Summons the Fury

Coordination Rules and Fairness in Social Dilemmas

PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Tilburg
op gezag van de rector magnificus
prof. dr. F. A. van der Duyn Schouten

in het openbaar te verdedigen ten overstaan van een door het
college voor promoties aangewezen commissie
in de aula van de Universiteit op
dinsdag 8 november 2005 om 14.15 uur

door
Jeroen Stouten
geboren op 12 april 1979 te Maaseik

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Prof. dr. Eric van Dijk
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ISBN: 9076269491

VOORWOORD

Het schrijven van dit proefschrift was een pad dat bewandeld werd met ontdekkingen, beklimmingen en afdalingen. In die tijd heb ik genoten van talrijke leerrijke ervaringen.

Het is ontegensprekelijk zo dat dit proefschrift mede vorm gekregen heeft door de gidsende hand van David De Cremer. David gaf me echter niet alleen een rijkdom aan kennis over onderzoek. Zijn nooit aflatende enthousiasme en onze talrijke, zeer memorabele gesprekken over het reilen en zeilen in de wetenschap hebben eveneens bijgedragen tot mijn bezieling voor het vakgebied. Bovendien was hij niet enkel een adviseur en begeleider, maar is hij eveneens ook een goede vriend gebleken. Het was steeds een groot plezier met jou conferenties te bezoeken. Ik kijk er nog steeds met veel vreugde naar terug. Het bedenken van nieuwe onderzoekslijnen in de spa zal niet meer hetzelfde zijn.

Het proefschrift wat hier voor u ligt is eveneens begeesterd door de hand van Eric van Dijk. Zijn invloed heeft onbetwistbaar geleid tot vele positieve wendingen. Je kritische blik, oog voor detail, en je specifieke manier om dingen te verwoorden, zoals je beschrijving voor rechtvaardigheid: 'wat een lieve mensen' zijn een bron van inspiratie geweest. Het was een plezier met je samen te werken.

De ontmoeting met Rob Ruiten tijdens mijn studie psychologie heeft er in de eerste plaats voor gezorgd dat ik geïntroduceerd werd in de wereld van de sociale psychologie. De samenwerking met jou tijdens mijn onderzoeksassistentschap heeft bijgedragen tot mijn enthousiasme voor wetenschap en het doen van onderzoek. Bovendien heeft dit in grote mate aanleiding gegeven tot het schrijven van dit proefschrift. Bedankt voor die leerzame en leuke ervaringen.

Natuurlijk was het werk nooit zo aangenaam verlopen zonder de aanwezigheid van mijn kamergenoot in Maastricht, Pepijn van Empelen. Ik herinner me onze hevige muziekinterventies alsook de vele grappige en plezierige momenten op de derde en later de tweede verdieping. Eveneens van onmiskenbaar belang in Maastricht is Roy - KF - Thewissen waar ik vele plezierige discussies en gesprekken mee gevoerd heb tijdens de koffie

en zijn onvergetelijke impressie van de kraanvogel op de vensterbank zal me altijd bijblijven.

In Tilburg my roommate, Yaniv - the Main Man - Shani, has also made my stay extremely pleasant. "Thanks a bunch" for the many wonderful and hilarious moments. I'll especially remember the fruit shakes, music battles, dart wars, and the Hebrew language lessons.

Tot slot bedank ik mijn ouders voor de steun en het vertrouwen dat ze me steeds hebben gegeven in al mijn keuzes. Thea, jou wil ik bedanken omdat je er altijd voor me was in de soms onzekere tijden van het schrijven van dit proefschrift. Bedankt.

Jeroen Stouten

Augustus 2005

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Chapter 1

Introduction

In peace, there's nothing so becomes a man as modest stillness, and humility; but when the blast of war blows in our ears, then imitate the action of the tiger, stiffen the sinews, summon up the blood...now set the teeth and stretch the nostril wide, hold hard the breath, and bend up every spirit to its full height!

William Shakespeare (1564 - 1616), *The Life of King Henry V*

In everyday life people's reactions and behavior are dependent on other people's choices. These interactions are often shaped in the context of social groups. People prefer to be part of these groups because (1) they create a sense of belonging, (2) it is possible to achieve goals and to provide information one cannot attain alone, (3) it increases a feeling of security, and (4) a feeling of positive social identity (Barash, 1977; Baron & Byrne, 2000). Although the formation and belonging to social groups is a positive feature, group members often are confronted with conflicting interests between group members. At best, the individual group members' interests and the collective interest coincide, but often there is a

Part of this Chapter is based on Stouten, De Cremer, & Van Dijk (2005c). Equality in social dilemmas. *Social Justice Research*.

discrepancy between them. These conflicts are frequently observable in daily life: The Kyoto protocol, for example, prescribes an international agreement that industrialized countries should make efforts in order to restrict their greenhouse gas emissions. The combined efforts of all the countries should result in a reduction of environmental pollution. However, if certain countries refrain themselves from making efforts in order to let the protocol succeed, chances are high that the environmental pollution cannot be reduced. On a micro level, these problems of coordination can be seen in work teams in which group projects have to be achieved and individual members' contributions accumulate to the group project. The resultant project or common good is often dependent on the efforts of the individual team players. In the literature these examples are referred to as *social dilemmas*.

According to the philosopher Thomas Hobbes people will only make decisions that are beneficial for their own self-interest, because, according to Hobbes, man is fundamentally selfish and will compete to obtain material rewards. Hence, following Hobbes' argument, without proper authority taking control, people would be non-cooperative and act in a self-interested way in these social dilemma situations. In contrast to Hobbes, Dwight D. Eisenhower once pointed out that 'though force can protect in emergency, only justice, fairness, consideration, and cooperation can finally lead men to dawn of eternal peace.' This view assumes that instances of fairness and justice can be important motivations in addition to self-interest in order to resolve these conflicts of interests. The present dissertation will discuss the importance that people attach to justice concerns in social dilemmas. More particular, it is argued that the use of certain coordination rules are motivated by fairness and violations of these fairness issues result in both strong emotional and retributive reactions.

THE SELFISH

There is a further drawback to common ownership: the greater the number of owners, the less the respect for the property. People are much more careful of their own possessions than of those communally owned; they exercise care over public property only in so far as they are personally affected. Other reasons apart, the thought that someone else is looking after it tends to make them careless of it.

Aristotle, *Politics* (Sinclair, 1981)

Human interaction involves that people's actions are dependent on each other, that is people are often interdependent. This implies, for example, that in social interaction, people's outcomes will be partially determined by the actions of the others. This process can be characterized as a mixed-motive situation, in which people have conflicting interests whether to cooperate or not. A famous example of such a mixed-motive situation is the prisoner's dilemma game.

This game can be easily illustrated by the example of two prisoners who are accused of a crime (Table 1.1), but there is insufficient evidence against them.

Table 1.1. An example of a prisoner's dilemma game

Prisoner 1's choice	Prisoner 2's choice	
	Cooperate	Defect
Cooperate	Weak punishment for both	Player 2 is free and Player 1 is condemned for a long sentence
Defect	Player 1 is free and Player 2 is condemned for a long sentence	Moderate punishment for both

The two prisoners are not allowed to communicate with each other, and each prisoner is given the same proposition by the investigators. This

proposition holds that if a prisoner decides to testify against the other (hence, defect on the other), he will be set free and the other will receive a long sentence. However, if both prisoners testify (both defect) they both receive a moderate punishment. If both do not testify (both cooperate with each other), then both receive a weak punishment. Here, both prisoners are set to the dilemma. Each prisoner's outcome is dependent on the others choice. If both prisoners decide to testify they will both receive the worst outcome. However, if both manage to coordinate their decisions and stand the temptation to testify against the other, they will both receive a weak punishment.

The outcomes for both prisoners can be described by a matrix that represents each player's choices and its corresponding outcome for all players. Interdependence theory (Kelly & Thibaut, 1978) explains that by using these matrices the interdependent interaction can be formally modeled. According to this theory, people first perceive a given matrix of a situation, which represents their direct self-interests (e.g., testifying against the other prisoner). Because people's choices are often the result of other motives than only self-interest, this given matrix can be turned into an effective matrix, representing the motives of the individual, for example, long-term goals or strategic considerations.

The prisoner's dilemma is typically played with two persons, but the social dilemma game is a situation in which more than two persons are present (Dawes, 1980). The basic property of such a social dilemma is, as noted above, the conflict between the personal and the collective interests. On a personal level, it is more advantageous to defect rather than cooperate. However, when all decide to defect, all will be worse off than when all would cooperate, and maximize collective interests. One specific type of social dilemma, that will be the focus of the present dissertation, is the public good dilemma. The public good dilemma describes that certain commodities or services (public goods) have to be provided such as libraries, roads, and parks (Dawes, 1980; Hamburger, 1973; Komorita & Parks, 1996). In addition, when a sufficient amount of contributions is needed to successfully provide the public good a step-level public good situation emerges, in which a threshold of individual contributions has to be obtained before the public good can be provided. In this situation it is

often the case that individual group members cannot be excluded from access to the public good (Olson, 1965). For example, even if people do not personally contribute to their neighborhood park, chances are small that they are refused access to the park. Hence, in this situation it is very likely that some people do not contribute, and this means that the public good cannot be established, and the outcomes for the individual group members are small or even nonexistent (Platt, 1973), for example, the park cannot be build because the money necessary to start with the construction is simply not available. This means that heeding self-interest is rewarding in the short-run, because one can save resources by not contributing, but it will damage the collective in the long run, as there will be no common good to benefit from.

In step-level public good dilemmas people seem to coordinate their behavior according to certain focal points (Schelling, 1980), which can be described as certain rules that people tacitly use in order to coordinate their behavior, such as the rule that when specific details are lacking, meeting each other at the train station at noon. This issue of focal points even can be traced back to Hume (1739/1992, Part II, Section iii), who noted the example of a Frenchman, a Spaniard and a German who come across three bottles of wine, namely Rhenish, Burgundy, and Port, and have a quarrel about it. There are 27 ways of allocating these bottles, but Hume argued that the focal point in dividing the bottles is to give each nationality the wine that is related to his own country.

Using this philosophy of focal points social dilemma research applied it to the question how people coordinate decisions in social dilemma settings (Van Dijk & Wilke, 1993; 1995; 2000)? In the literature, three important coordination rules can be distinguished, on which people focus their decision behavior: Need, equity, and equality (Deutsch, 1975). Need holds that people will distribute resources according to the legitimate need of the others. Hence, when others are in need, they will adjust their contributions in a way that seems appropriate. The equity rule holds that contributions are proportional to the outcomes; whereas the equality rule states that people's outcomes should be equal.

A large amount of research showed that people tacitly coordinate their behavior by following these rules (e.g. Allison & Messick, 1990; Marwell

& Ames, 1979; Van Dijk & Wilke, 1993; 1995; 2000). More specifically, it has been shown that the equality rule is especially used in symmetric situations in which they start off with the same financial situation (the endowments for all group members are equal), whereas the equity rule is especially prevalent in asymmetric situations (in which either the initial endowment or the outcome was different among group members). These coordination rules also differ in the message that they communicate. Equality “represents a desire to create positive interpersonal relationships, trying to keep everybody happy and pleased” (Sampson, 1975, p. 52). Hence, equality is related to community issues, as meant by fostering positive and enjoyable social relations and increasing solidarity, whereas equity communicates competitiveness and “promotes productivity but harms social harmony” (Tyler & Belliveau, 1995, p. 294; see also Deutsch, 1975; Loewenstein, Thompson, & Bazerman, 1989; Lutz, 2001; Mikula, 1980). In addition, researchers have also pointed out that the use of coordination rules may not only serve efficiency, but also appeals to promoting fairness within relationships and groups. More recent research has indeed shown that fairness matters in social dilemmas (Eek, Biel, & Gaerling, 2001; Van Dijk & Wilke, 1995; 1996).

THE FAIR

The notion that people adopt coordination rules such as equality and equity to make efficient decisions, but also to make relations within groups more enjoyable and satisfying points out that these rules may not only be interpreted in terms of self-interest but also in terms of fairness (Cropanzano & Ambrose, 2001; De Cremer, 2002; Van Dijk & Wilke, 1996).

According to the self-interested or rationalistic approach, people’s behavior in social dilemmas is guided by the expected utility of this behavior (e.g. Carpenter, 2003). This view holds that people are mainly concerned with satisfying their direct personal interest (see Game Theory, Luce & Raiffa, 1957). Although game theoretical approaches are the central assumption in classic economics to explain people’s behavior in mixed-motive situations, and they defend the position that people are

motivated by personal gratification only, it may also be the case that people are concerned with motives other than self-interest. As David Messick (1999a, p. 15) pointed out: “I think our responses in these situations are often rooted in shallow rules, habitual rituals, and other processes that are not directly intended to maximize outcomes, values, or utilities.” This position seems often to be ignored in economic theories (Rabin, 1993).

Andrew Colman (1982; 2003) explained that formal game theory (as proposed by economists) does not give straightforward solutions to how people behave in mixed-motive situations because (1) most situations are not purely competitive, (2) people have bounded rationality and cannot analyze all payoff matrices, (3) game theory cannot capture entirely the complex interaction between people, and (4) game theory makes no distinctions between people’s preferences or interests. In addition, game theoretical approaches (5) have little external validity and (6) have difficulty with generalizing their results to real-life situations (Pruitt & Kimmel, 1977).

This suggests that people’s motives not only are self-interested, rational, or that people are on a continuous search to increase their happiness and pleasure (Edney, 1980; Konow, 2003). Instead, there are notions that people also care for social justice (see e.g., Marwell & Ames, 1979; Mitchell, Tetlock, Mellers, & Ordóñez, 1993). In early philosophy, Aristotle already noticed that justice concerns might matter in situations that we now call mixed-motive situations. He argued that people compare themselves to others in the proportion between what they received and what they invested or contributed. When it is clear that there is a discrepancy in the proportion between what one gets relative to one’s contributions and what someone else is getting relative to his or her contributions (i.e., inequity), people may feel deprived and perceive to be treated unjustly (Adams, 1965; Messick & Sentis, 1983). This issue receiving just outcomes is often referred to as distributive justice (Homans, 1961; Deutsch, 1985). Hence, it seems that people do have fairness and justice concerns¹ (Kahneman, Knetsch, & Thaler, 1986), as can be illustrated by research about social norms.

¹Justice and fairness are not entirely the same concepts as justice can be described as the use of certain principles that are considered to be fair (Rawls, 1971/1999).

Although coordination rules in social dilemmas are often referred to as norms of fairness and instances of justice (Bazerman, White, & Loewenstein, 1995; Biel, Eek, Gaerling, 1999; Lane, 1986; Lutz, 2001; Pillutla & Murnighan, 2003), no empirical research has really addressed this question, while it is argued in the general social psychological literature that people seem genuinely concerned with fairness and social justice (see e.g., Lind & Tyler, 1988).

Previous research showed that these coordination rules can be defined as decision heuristics, which are simple, easy to apply, and easily justifiable (Allison et al., 1992; Samuelson & Allison, 1994). In addition, these researchers argued that, in order to make a decision, people first set their preference for a coordination rule, and consider this preference to be fair (Messick & Sentis, 1983). However, these preferences may be socially shared (because the coordination rules are commonly used) and may have evolved into true acceptance and enforcement to become norms (Opp, 1982).

The fact that individual decision makers often use these coordination rules, may imply that people expect others to use these rules too. These coordination rules, apart from being a decision heuristic, thus may function as social norms, as they are considered legitimate and socially shared guidelines to define which decisions to expect in social dilemma settings (Harvey & Enzle, 1981; Opp, 1982; Pillutla & Chen, 1999; Schwartz, 1973). A similar argument has been made by research by Brosnan and De Waal (2003), who showed that monkeys refused to exchange a token for a piece of fruit and reacted very emotional when they saw a counterpart getting a more appreciated piece of fruit, and consequently, getting a better deal. This is also in line with the fact that people judge the fairness of their outcomes to a certain referent standard (Cropanzano & Ambrose, 2001), and evaluate the outcomes that they receive according to whether it is fair (Tyler & Dawes, 1993). Finally, John

In addition, it may well be that "judgments of fairness are a type of moral judgment, evaluation of the rightness or virtue of a broad range of individual and institutional actions and the rightness of the consequences of those actions" (Leventhal, Karuza, & Fry, 1980, p 192).

Rawls' made a similar argument (1971/1999) that it is the case that "the conduct of individuals guided by their rational plans should be coordinated as far as possible to achieve results which although not intended or perhaps even foreseen by them are nevertheless the best ones from the standpoint of social justice" (p. 49). Thus, fairness issues should be deeply felt when engaging in decisions to serve the collective or personal interests.

THE EMOTIONAL

Reason is and ought to be the slave of passions, and can never pretend to any other office than to serve and obey them.

David Hume (1711-1776)

If people consider coordination rules as being attached to a fundamental principle of fairness, they should be sensitive to a violation of these rules. Fairness is a personally relevant norm which people endorse. As such, violating these coordination rules and fairness rules should intrinsically move people and thus elicit emotional reactions (Adams, 1965; Bazerman et al., 1995). Emotions often emerge if significant events happen and as such, a strong relationship should exist between fairness and emotions. Emotions can thus be defined as evaluations of persons or events, which exist of such components as the appraisal of the emotion, the phenomenological experience, action-tendencies, and behavioral actions. In early philosophy, Stoicism (between the 4th and 3rd century BC) had the most detailed account of what emotions represent. For the Stoics "emotion was a cognitively-induced impulse to act or plan for emergency action, caused by the subject making a judgment or forming a belief about the current state of affairs and what one should do" (Lyons, 1999, p. 24). In medieval society, emotions were presented as irrational and obscuring people's cognition. The idea that emotions are interrelated with cognition was later revisited by Spinoza, who argued that emotions are purely cognitive, complimenting the desire and the feeling associated with emotions. In the 1950's, William James held a neo-Cartesian view on

emotions, arguing that emotions represent changes of physiological arousal in the body. For example, we are afraid because we tremble.

The study of emotions has much evolved since James introduced it into psychology. The effects of emotions have been vastly shown in human cognition, motivation, and behavior (see e.g., Clore, 1992; Lerner & Keltner, 2000). Different theories have tried to predict how emotions influence and can be influenced by different factors. Next to theories stating that emotions exist of different orthogonal factors, such as valence (pleasure-displeasure) and level of activation (Larsen & Diener, 1992), a theory that is more suitable for describing the emergence of different emotions is appraisal theory (Scherer, 1999). Appraisal theory states that an evaluation of certain predefined factors (such as whether the event is caused by a circumstance or a person, or whether the event is rewarding or punishing, see also Roseman, 1991) influences which emotion will be particularly relevant in the given circumstances. For example, anger may be instigated by an unexpected event for which another person is responsible (Smith & Ellsworth, 1985). In addition, anger emerges when accepted social norms are violated or when there is disapproval of someone's blameworthy action (Shaver, 1985). Thus, the emergence of emotions is dependent on cognitively rich mental states.

Also, Aristotle referred to emotions as *Παθη* (passion) which means to suffer, and by which he argued that emotions are evaluative states that register what is valued, and when something results in pain, we speak of emotions because what we value is violated. In related terms, Aristotle made the argument that emotions are interrelated to moral motives.

This suggests that emotions are closely related to issues of morality and fairness (Leventhal et al., 1980) as people evaluate certain conditions according to their personal goals and from these goals emotional reactions may arise. If fairness plays an important role in coordinated decisions in social dilemmas, then research has to look at the emotions that are experienced within the social dilemma situation.

FAIRNESS: THE EMOTIONAL CATALYST IN SOCIAL DILEMMAS

Although the study of emotions has a relatively long tradition, it is only recently that their effects in social dilemmas have been acknowledged (Hegtvedt & Killian, 1999; Hertel, Neuhof, Theuer, & Kerr, 2000; Homans, 1961; Thibaut & Kelly, 1959), and the few studies that have been published focus primarily on the issue of mood (Hertel, 1999; Hertel et al., 2000). One of the first arguments that emotions are important in social dilemmas was described by Adams (1965), who argued that when inequities arise, and upon this, feelings of injustice are felt, people feel distressed. In addition, research also showed that appraisals of “justice, moral value, or legitimacy are important in generating emotions such as anger” (Roseman, 1991, p. 166; see also Mikula, Scherer, & Athenstaedt, 1998). This shows that feelings of injustice in social-decision making result in being upset and reacting emotionally (e.g., Loewenstein & Lerner, 2002; Weiss, Suckow, & Cropanzano, 1999), because it communicates information about the ongoing interaction (Nesse, 1990).

As discussed above, coordination rules as equality and equity represent people’s focus on certain decision rules. This is in line with Pepitone (1976) who argued that “underlying normative social behaviour are dynamics, structures, or conditions that are part of and generated by the collective system of interdependent individuals or other components” (p.642), stressing that coordination rules may be the result of the dynamics of the collective (Harvey & Enzle, 1981; Kerr, 1995; Pepitone, 1976; Pillutla & Chen, 1999; Schwartz, 1973).

Indeed, in social dilemmas it has been shown that equality and equity are used by decision makers to coordinate their behavior (Allison, McQueen, & Schaerfl, 1992; Allison & Messick, 1990; Messick, 1993; Messick & Schell, 1992). The fact that people tacitly coordinate using these rules shows that they expect others to use them as well. When a group member decides to violate such a coordination or fairness rule, this person decides to *free ride*, and therefore, violates the group norm (De Cremer, 2003; Sroebe & Frey, 1982; Stouten, De Cremer, & Van Dijk, in press-b). The fact that a group member violates principles of fairness should elicit negative emotional reactions among the other group

members (see e.g., Berkos, Allen, Kearney, & Plax, 2001, about norm violations) because this group member is a threat to the functioning and the welfare of the group (Edney, 1980). When such a violation occurs due to another person people may react in anger (Smith & Ellsworth, 1985) and find it unfair (Skitka, 2002).

Aristotle defined anger as a belief that is experienced when one is unfairly treated, which causes painful feelings and a desire for revenge. Also, Seneca described that anger may either lead to revenge in terms of avenging or sadistic aggression (Lazarus, 1999). These negative emotional reactions, thus, may lead to retributive actions, such as taking revenge, or punishing the offender (Bies & Tripp, 1996; Chekroun & Brauer, 2002; Fehr & Gächter, 2002; Fitness, 2000; Tyler & Belliveau, 1995; Weiss et al., 1999) because “emotions of injustice can serve as a moral justification for action” (Bies & Tripp, 2002, p. 217). Other research has also shown that actions of injustice have led to stealing, complaining, withdrawal, and disobedience (Rutte & Messick, 1995). These examples show that when principles of fairness are violated the emergence of emotional reactions may eventually lead to vengeful behavior and a tendency to give the offender his “just desert” (Darley & Pittman, 2003).

OVERVIEW OF THE PRESENT DISSERTATION

In this dissertation it is argued that fairness and justice do matter in social dilemmas, and that equality and equity represent exemplars of fairness rules, rather than only being simple heuristic rules that serve self-interested concerns. People may also use justice to satisfy relational concerns (rather than economic concerns), which facilitate interpersonal relationships within the group in the social dilemma situation. Therefore, it is argued that not only do people pose the question what is appropriate and efficient for them to do in this situation (e.g., Messick, 1999b; Weber, Kopelman, & Messick, 2004), but also *what is fair for them to do in this situation*. These questions relate to the importance of predicting people’s behavior as a function of both situational and personality factors (see Snyder & Cantor, 1993). In three empirical chapters it is tested whether fairness considerations matter in determining people’s emotional and

retributive reactions as a function of differences in personality in social dilemmas.

In order to test this assumption, a paradigm was developed in which fairness is violated. First of all, in Chapter 2, it is studied whether the coordination rule of equality represents a matter of fairness in social dilemmas. It is argued that if this is so, people will be upset when someone violates the equality rule even if it does not have financial consequences, and this may particularly be true for those who see equality more in terms of true fairness (i.e., prosocials), than in terms of outcome concerns (i.e., proselfs).

If coordination rules are related to fairness issues and influence the relationship within the group, these relational properties can be important for people's reactions. In Chapter 3, it is argued that relational factors, such as communicating explanations about previous violating behavior, influences people's emotional and retributive reactions. It is tested whether a violation of the equality rule generates questions why this violation occurred and how different attributional explanations, and the honesty of these explanations influence people's reactions in a social dilemma situation. Moreover, it is suggested that these explanations are particularly important for people who are trustful to others, and trust the given explanation.

In Chapter 4, it is studied whether the quality of the relationship within the group is an important basis for the perception of coordination rules. Decision makers use coordination rules such as equality and equity because they receive both social and financial advantages from the group. However, these rules are particularly important because they communicate one's acceptance by the group. In this final experimental chapter it is argued that when one is not socially accepted the basis for these coordination rules is no longer present. More particularly, when one is socially excluded, differences in interest in the public good's payoff give rise to the expression of emotional and retributive reactions. In addition, this will be particularly pronounced among people who either pursue self-interest (i.e., proselfs) relative to prosocials, except when they possess negative reciprocal beliefs.

Chapter 1

Finally, the findings of the experimental chapters will be summarized and discussed in Chapter 5. It should be noted that each of the empirical chapters represent individual articles that are either in press or submitted for publication. This holds that the individual chapters can be read separately and there exists some overlap between them.

Chapter 2

Coordination Rules in Social Dilemmas: Equality as Fairness

In society, personal and collective interests are often at odds (Dawes, 1980). This particular situation is referred to as a social dilemma (e.g. Komorita & Parks, 1994). A social dilemma is an interdependence situation, in which people can choose to cooperate or not. An example of a social dilemma is the existence of unions that protect the rights of employees. At the individual level it is more profitable for a union member not to pay his or her membership contribution and to still enjoy the benefits of being a member. However, if every member would choose this option, the union would not be maintained and everyone would be worse off than if all decided to pay their membership contribution. This situation can be defined as a particular type of social dilemma, more specifically, a public good dilemma.

This Chapter is based on Stouten, De Cremer, & Van Dijk (in press-a). All is well that ends well, at least for proselves: Emotional reactions to equality violation as a function of social value orientation. *European Journal of Social Psychology*.

Several forms of public good dilemmas exist. One common form is the step-level public good dilemma. In these types of dilemmas a certain threshold has to be reached in order to provide the public good. How do people decide on their contributions in step-level public good dilemmas? Based on research on coordination rules (Schelling, 1980) it is suggested that under such circumstances people use “coordination rules” to tacitly coordinate their decisions (Van Dijk & Wilke, 1995). One such coordination rule is the equality rule, which prescribes that people divide the threshold that has to be surpassed by the total number of members (= equal share) to determine how much they should contribute (e.g. Biel, Von Borgstede, & Dahlstrand, 1999; Deutsch, 1975, 1985; Deutsch & Gerard, 1955; Lane, 1986; Van Dijk & Wilke, 1995, 1996; Van Dijk, Wilke, Wilke, & Metman, 1999).

Why do people use the equality rule in step-level public good dilemmas? The present chapter attempts to identify which motives underlie people’s preference for an equality rule in step-level public good dilemmas. More specifically, it will be examined whether people evaluate the use of the equality rule in terms of concerns for efficiency (Messick, 1993) or in terms of concerns for fairness (Van Dijk & Wilke, 1995).

EQUALITY IN SOCIAL DILEMMAS

An abundance of research has shown that many people use the equality rule as a coordination rule in step level public good dilemmas, as such determining contribution decisions. However, this research has not addressed the question why the decisions of those people actually stay close to such a rule. In fact, earlier research (e.g., Messick, 1993; Roch, Lane, Samuelson, Allison, & Dent, 2000; Samuelson & Allison, 1994) mainly perceived equality as a decision heuristic, which is simply used to facilitate decision-making. This belief in efficiency is also illustrated by the three characteristics that the above researchers attributed to the equality rule: (1) the rule is simple and easy to understand, (2) it is effective so that it can be applied easily, and, finally, (3) it is easy to justify the application of the rule because of its simplicity.

However, equality, besides being an efficient heuristic, may also be related to notions of fairness (e.g. Lutz, 2001; Messick & Sentis, 1983; Van Dijk & Wilke, 2000), as previous research has indicated (see Bazerman, White, & Loewenstein, 1995; Chen, 1999; Edney, 1984). More specifically, research by Bazerman and colleagues (1995) showed that the equality rule was preferred above maximizing personal outcomes. Also, Chen (1999) pointed out that group members considered the equality rule as the fairest rule, particularly when group identity was high. As such, following Messick and Sentis's (1983) argument, it can also be suggested that: "equality is at the heart of the concept of fairness" (p. 68). Thus, in the remainder of the present chapter, references to concerns about fairness imply that people wish to achieve equality (see also Samuelson, 1993).

Following from the above, we argue that it is not clear yet which concerns underlie people's motivation to make use of the equality rule. Indeed, prior research (e.g., Allison, McQueen, & Schaerfl, 1992; Allison & Messick, 1990; Messick, 1993; Samuelson & Allison, 1994) has primarily shown in which situations people do or do not use the equality rule, but it has not addressed why a considerable part of the people use the equality rule. We reason that, if people use the equality rule, they may have expectations that others will use equality too. Moreover, if people expect others to use equality, people's reactions towards a violation of equality should give us new insights whether efficiency or fairness concerns motivate the use and preference of the equality rule. In the following, we therefore argue and demonstrate that in order to investigate what motivates the use of the equality rule, it may be promising to investigate how people react when they find out that others have violated the equality rule. In addition, it will be shown that social value orientations can play an important role in addressing how and why people respond to violations of equality.

SOCIAL VALUE ORIENTATION AND THE PREFERENCE FOR EQUALITY

In the previous paragraph, we have argued that the equality rule may be used out of a concern for fairness or efficiency. This does not imply,

however, that we suggest that only one of the two will be the most prevalent. It may well be that both concerns underlie the use of the equality rule, and that for some people the fairness motive (i.e., equality) will primarily dominate, whereas for others the efficiency motive will primarily dominate.

To examine this possibility, we will base our predictions concerning this issue on the integrative model of social value orientation (Van Lange, 1999). Social value orientations are defined as the weights people assign to outcomes for the self and others in allocation tasks (Messick & McClintock, 1968; Van Lange, Otten, De Bruin, & Joireman, 1997). Broadly speaking, people can be classified as prosocial individuals (i.e., primarily aimed at maximizing joint outcomes), competitors (i.e., aimed at maximizing the difference between outcomes for self and other) or individualists (i.e., aimed at maximizing own outcome, regardless of other's outcome). Studies on social value orientation usually combine individualists and competitors into one group that is referred to as *proselfs* (e.g. De Cremer & Van Lange, 2001; Van Lange & Liebrand, 1991).

The integrative model of social value orientation, first of all, argues that people differ in the way they assign importance to outcomes for self relative to outcomes for others. More precise, *proselfs* relative to *prosocials* have been shown to care more about their own self-interest, as witnessed by their tendency to cooperate less in groups (De Cremer & Van Lange, 2001), to consider cooperation less intelligent (Van Lange & Liebrand, 1991), and to consider noncooperative behavior not as bad (e.g. Liebrand, Jansen, Rijken, & Suhre, 1986; but see Beggan, Messick, & Allison, 1988; Sattler & Kerr, 1991). Thus, in evaluating what happens within social dilemmas, *proselfs* primarily care about efficiency and can be expected to react toward others violating important coordination rules like equality out of such efficiency concerns.

A second argument of the integrative model is that *prosocials* not only care about other's outcomes, but more specifically about equality in a way that they wish both themselves and others to receive equal outcomes and contribute equal amounts (i.e., like in the present study). This position explains why *prosocials* behave noncooperatively if others do not

cooperate and vice versa (see De Cremer & Van Lange, 2001), why prosocials recall in a better way than proselfs heuristics in mixed-motive situations focusing on equality like ‘play-fair’ and ‘share and share-alike’ (De Dreu & Boles, 1998). From this, it could be expected that prosocials will react towards violations of equality by others out of fairness concerns because they consider equality as their important guideline in social decision-making.

FAIRNESS OR EFFICIENCY? THE USE OF EMOTIONAL REACTIONS

Using social value orientation may not provide much insight to the understanding of the motives underlying the use of the equality rule if we restrict our focus on the contributions that people make. After all, if proselfs use the equality rule primarily out of efficiency concerns and prosocials primarily out of fairness concerns, no differences in contributions need to be found. Both may be expected to apply the equality rule. Therefore, we need to focus on another measure that can help us in disentangling the efficiency and fairness concerns. One such measure can be emotional reactions. In the present chapter, we argue that how proselfs and prosocials react emotionally to a violator of equality may teach us more about the motives that underlie people’s preference and evaluation of the equality rule.

To see why, it is informative to imagine how proselfs and prosocials would react if they find out that one member of their group violated the equality rule by not contributing. In the typical case, it implies that the group will fail to meet the threshold, consequently failing to provide the public good. In such a situation, both proselfs and prosocials may be upset, and likely to respond in anger, albeit for different reasons. Proselfs might be upset because the group failed in providing the public good (i.e. for them efficiency concerns may prevail). Prosocials might be upset because a general norm of fairness is violated (i.e. for them fairness concerns may prevail).

But now imagine what would happen if the public good would be provided after all. For example, what if the group finds out that despite their initial failure they can still obtain the public good (e.g. the group

members receive the information that the public good will be awarded after all; a procedure that we will use in the present studies)? As soon as the public good is achieved efficiency needs (i.e. obtaining part of the public good) are met. Hence, because group members will then suffer no financial losses, people evaluating the use of the equality rule in terms of efficiency concerns (i.e., proselfs) will react less negatively than if they would suffer such financial losses (i.e., less angry, more joyful). This means that despite the presence of such a violator obtaining the public good would lead people to react less negatively if efficiency is their main motive.

Could one expect the same pattern if equality would be used out of concerns for fairness? Under these circumstances, violating the equality rule, regardless whether the group succeeds or not in achieving the public good, can still be seen as a violation of fairness. So, under both outcome conditions (i.e. eventual failure or success) one would then expect that others would react equally negative (i.e., they remain angry). Violating equality will be seen as unfair, independent of whether the group is efficient or not. Hence, failure or success in establishing the public good should not influence people's reactions if fairness concerns are underlying their evaluation of the equality rule. Hence, their (= prosocials) reactions remain the same because equality is violated.

One would thus expect that mainly proselfs will react less negatively when the group eventually succeeds relative to failure (as their aim is to further own interests), whereas prosocials will react negatively regardless of eventual success or failure, because they consider the use of equality in terms of fairness. Put differently, we expect prosocials to evaluate the use of the equality rule in terms of fairness reasons, whereas we expect proselfs to evaluate the use of the equality rule in terms of efficiency.

THE RESEARCH IN THE PRESENT CHAPTER

In the present chapter, people's emotional reactions will be assessed as a function of social value orientation and group feedback. To date, social dilemma research has paid little attention to these types of reactions (for an exception see e.g., Sanna, Parks, & Chang, 2003), despite the fact that

recent literature specifically outlines the importance of emotions in decision making and justice (e.g. Hertel, 1999; Knapp & Clark, 1991; Loewenstein & Lerner, 2002; Mikula, Scherer, & Athenstaedt, 1998; Weiss, Suckow, & Cropanzano, 1999). In fact, it has been argued that it is of major importance to assess and manage the emotions of group members, because emotions like, for example, frustration may negatively influence interaction and coordination within the group (Humphrey, 2002). Moreover, and also of specific relevance to the present research, Mikula and colleagues (1998) showed that the perception of injustice often results in a range of emotional reactions, which frequently elicit a number of behavioral and perceptual reactions towards those who violate the justice principle (see Schroeder, Steel, Woodell, & Bembenek, 2003). As such, it is important and necessary for our research question to assess people's emotional reactions.

EXPERIMENT 2.1

To examine whether a violation of equality influences emotional reactions as a function of our independent measures, a paradigm was developed in which one group member clearly violated the equality rule. In a scenario situation a step level public good dilemma was introduced, in which four group members were able to contribute money to the public good. All four members had an equal amount of money, which they could decide to contribute to the public good. If the group members managed to surpass or meet a given threshold, a financial reward was obtained, which then was equally divided among the group members. After contributing to the public good, participants received information that one group member violated the equality rule and, hence, the public good and the associated financial reward could not be obtained. Thereafter, half of the participants were informed that after some deliberation it was decided that they would nevertheless obtain the financial reward, whereas the other half of the participants remained in a failure situation. Following our reasoning above, the most important prediction was that proselves' emotional reactions would be dependent on the outcome feedback (success

or failure in obtaining the public good), whereas prosocials' emotional reactions would not be influenced by outcome feedback.

Method

Participants and design

Participants were 81 undergraduate psychology students who participated voluntarily. They were each paid 2.50 euros. A 2 (social value orientation) x 2 (feedback) between participants-design was used.

Procedure

Participants were approached by the experimenter and asked whether they were willing to participate in a paper-and-pencil study. If they agreed they were seated at a table and were given a questionnaire.

Assessment of the social value orientation measure. Before filling out the questionnaire, participants completed the nine-item Decomposed Games measure to assess participants' social value orientation. The Decomposed Games measure has excellent psychometric qualities. It is internally consistent (e.g. Parks, 1994), reliable over substantial time periods (Eisenberger, Kuhlman, & Cotterell, 1992) and is not related to measures of social desirability or indices of mood (e.g. Platow, 1992). The measure consists of nine items, each containing three alternatives of outcome distributions between the participant and an anonymous other. An example of an item looks as follows, choice A: 500, 500, choice B: 560, 300, and choice C: 490, 90. Alternative A represents the prosocial orientation because an equal distribution is preferred in dividing points to the self and to an anonymous other. Alternative B is the individualistic orientation because the outcomes for the self are maximized regardless of the outcomes for the other (560 for the self vs. 300 for the other). Finally, option C is the competitor orientation because the relative difference

between the self and the other is maximized (Alternative C: $490 - 90 = 400$ vs. A: $500 - 500 = 0$, and B: $560 - 300 = 260$).

Participants were classified if they made at least six out of nine choices that were consistent with one of the three social value orientations. In this study, 28 persons could be classified as prosocials (34.6%), 32 as individualists (39.5%) and 9 as competitors (11.1%). Twelve persons (14.8%) could not be classified according to the criteria. In concurrence with earlier research (De Cremer & Van Lange, 2001; Van Lange & Liebrand, 1991) individualists and competitors were combined to form one group of proselfs ($n = 41$). Thus, a total of 69 participants could be classified. Further, because our predictions are based on the assumption that people's motives underlying the equality rule can only be examined accurately if they themselves stay close to the equality rule (i.e. which indicates a concern for equality), we conducted our analyses on the emotion scale on the classified participants who contributed an amount close to the equality rule. That is, those participants contributing exactly an equal share or a share deviating a maximum of one standard deviation ($239.37 < \text{contribution} < 260.63$; in the present study) were included in these analyses resulting in a total of 65 participants.

Introduction of the public good dilemma. After completing the social value orientation questionnaire, participants read a scenario in which, they, together with three other students, were to launch a students' society at their university (in the Netherlands it is common practice that students participate in these organizations). The example of the student society is consistent with the characteristics of a social dilemma. For example, society members cannot be excluded from the common resources that the society achieves (i.e., non-excludability), and these societies are such closed groups that the common good will only be consumed by society members (i.e., exclusion of non-members). Furthermore, participants were said to possess 500 Dutch guilders (DFL) each (DFL; approximately 225 euros) that they had earned from a student job during the previous academic year. They were offered the opportunity to invest in this society. If the group would succeed in investing a total amount of 1000 DFL (approximately 450 euros) then the university would take all the necessary

steps to make this new students' society official. Thus, the threshold in this dilemma game was 1000 DFL. Moreover, if the threshold would be reached, then a financial reward of 2000 DFL (approximately 900 euros) would be given by the university board to the group, which will be divided equally among all group members. However, when the threshold could not be reached all individual investments would be lost.

After explaining the rules of the game, participants decided how much of their personal budget they wished to invest. Then, participants learned about the other group members' contributions: Two members of the group contributed 250 DFL (i.e., they used the equality rule) and the fourth group member contributed either 100 or 200 DFL (respectively low and high violation of equality), thereby violating the equality rule¹. At this point of time, participants were thus informed that the group had failed in reaching the threshold. However, participants then learned that the university board made use of certain internal rules that made it possible that the group would still succeed and, as such, would receive the financial reward (a practice considered legitimate in experimental studies, see also Samuelson & Allison, 1994). Thereafter, half of the participants learned that after deliberation they would nevertheless receive the financial reward (*success condition*), whereas the other half learned that the financial reward would not be paid out (*failure condition*). Then, participants' reactions regarding the situation in the group were measured. Finally, they were thanked for their participation and paid.

Dependent measures. All questions were answered on a 7-point scale ranging from 1 (= not at all) to 7 (= very much so). To check participants' understanding of the situation some comprehension questions were asked after the introduction of the public good dilemma. For example, which amount each group member possessed, and how high the threshold was. All participants answered these questions correctly. After this,

¹The magnitude of the violation was the second independent variable in the analyses. Preliminary analyses showed, however, that the degree of violation of the equality rule had no influence on the reactions of the participants and, therefore, was not included in further analyses.

participants were asked (1) how much they expected that each group member would contribute to the public good, (2) which amount they considered to be the fairest contribution, and, (3) how much they wished to contribute to the public good.

Thereafter, participants' emotional reactions were assessed. As mentioned earlier, an unjust act has been shown to elicit primarily anger and anger-related emotions (see e.g. De Cremer, 2004; Folger & Cropanzano, 1998). Therefore, participants were asked how "angry", "irritated", and "disappointed" they felt in this situation. These items were combined to form one negative emotion scale (Cronbach's $\alpha = .83$). Finally, participants were asked to what extent they considered their current feelings to be the result of perceiving the situation as unfair.

Results

Expectations and behavior prior to feedback

These measures were taken before the manipulation of outcome feedback was presented and therefore, a one-way ANOVA using social value orientation as independent variable was used. First, an analysis on the contribution that participants expected revealed no significant differences and showed that the majority of the participants expected that the equality rule would be used by the others (98.6%). Second, an analysis on the amount of contribution that participants considered fairest also did not reveal a significant effect and a great majority of participants said equality was the fairest amount (97.1%). Finally, the analysis on participant's own contribution also revealed no significant differences and the majority of the participants contributed exactly an equal share of 250 DFL (94.2%).

Emotional reactions

A 2 (social value orientation) x 2 (feedback) ANOVA on the composite score of the emotions scale showed a main effect for feedback, $F(1,61) =$

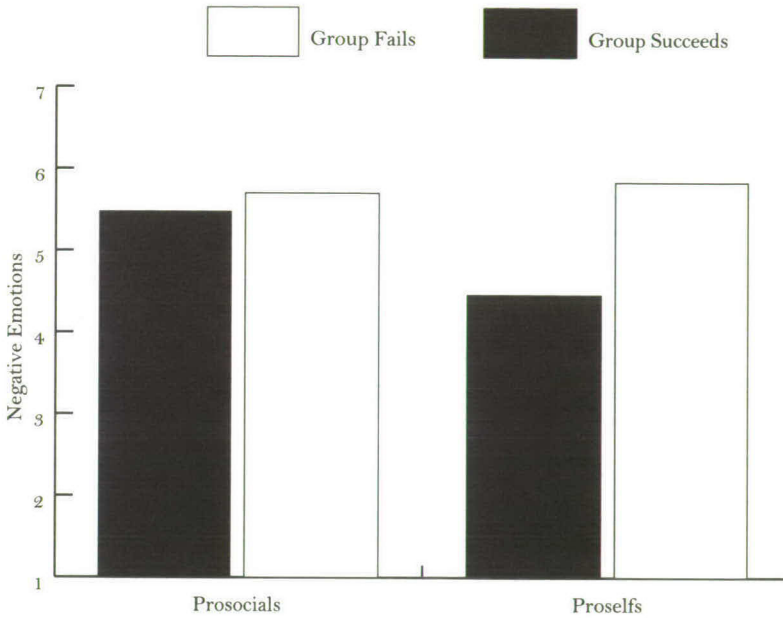


Figure 2.1. Negative Emotions (Y-axis) after a Violation of Equality as a Function of Outcome Feedback (Success or Failure of the Group) and Social Value Orientation (X-axis).

8.57, $p < .01$, and an interaction effect between social value orientation and feedback, $F(1,61) = 4.37$, $p < .05$ (see Figure 2.1).

Tests for simple effects revealed that proselfs displayed less negative emotions when the group succeeded in obtaining the financial bonus ($M = 4.46$, $SD = 1.68$) than when the group failed ($M = 5.84$, $SD = 0.66$), $F(1, 61) = 15.66$, $p < .001$. As expected, this difference between the success and failure conditions was not found among prosocials $F(1, 61) < 1$, $p < .60$ ($M_s = 5.47$ vs. 5.70 , $SD_s = 0.78$ vs. 0.99 , respectively). Thus, for prosocials the feedback information did not affect their emotional reactions, whereas this was the case for proselfs.

Unfairness

A 2 (social value orientation) x 2 (feedback) ANOVA on the extent to which participants ascribed their emotional reactions to perceiving the situation as unfair revealed a significant interaction, $F(1, 61) = 4.01, p = .05$.

Tests for simple effects for proselves revealed a marginally significant tendency, showing that proselves ascribed their emotional reactions more to unfairness when the group failed ($M = 5.87, SD = 1.14$) than when the group succeeded, ($M = 4.94, SD = 2.11$), $F(1, 61) = 3.52, p = .06$. However, among prosocials there was no such difference between the success and failure conditions, $F(1,61) = 1.10, p < .30$ ($M_s = 5.36$ vs. $6.00, SD_s = 2.01$ vs. 0.66 , respectively).

To check whether unfairness mediated the interaction between social value orientation and feedback on negative emotions, a series of regression analyses were performed (see Baron & Kenny, 1986; Figure 2.2). To test for mediation, four steps need to be taken. First, the effects of the independent variables (Feedback, Social Value Orientation, Feedback x Social Value Orientation) on the dependent variable (Negative Emotions)

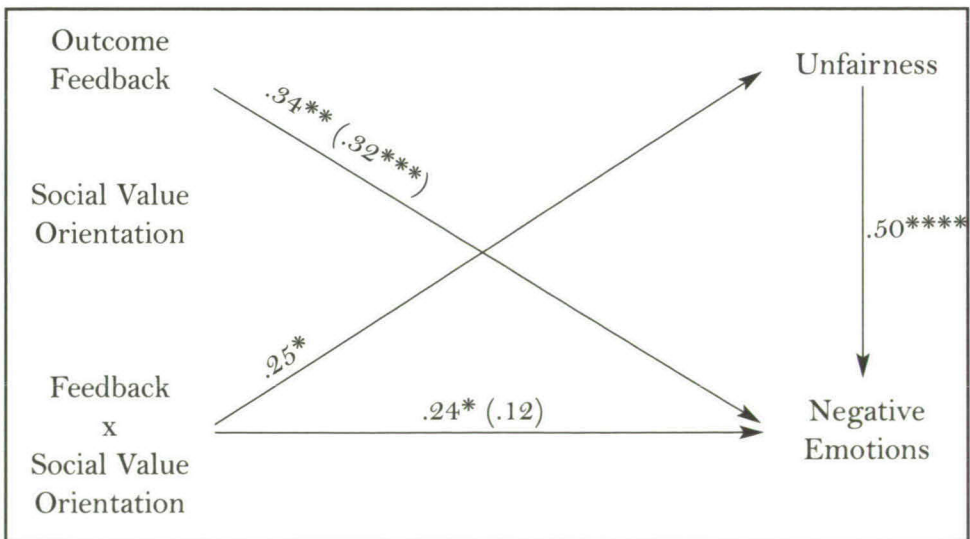


Figure 2.2. Path Diagram with the Regression Weights for Outcome Feedback, Social Value Orientation, Unfairness, and Negative Emotions. *, $p < .05$, **, $p < .01$, ***, $p < .005$, ****, $p < .001$.

have to be tested. Second, the effects of the independent variables on the proposed mediator (Unfairness) have to be tested. Third, the mediating variable unfairness has to influence significantly the dependent variable, negative emotions. Fourth, the effect of the independent variable has to be reduced when the mediating variable is added.

A first regression analysis on negative emotions showed a main effect for feedback, $\beta = .34$, $p < .01$, and an interaction effect between feedback and social value orientation, $\beta = .24$, $p < .05$, similar to the ANOVA results. A second regression analysis on unfairness showed an interaction effect between feedback and social value orientation, $\beta = .25$, $p = .05$, which is also similar to the ANOVA results. Finally a regression analysis with the variables feedback, social value orientation, feedback x social value orientation, and unfairness on negative emotions revealed, first of all, a significant effect for the covariate unfairness, $\beta = .50$, $p < .001$. Further, a significant effect for feedback, $\beta = .32$, $p < .005$ emerged, and, most importantly, it was shown that the interaction between feedback and social value orientation was no longer significant, $\beta = .12$, $p < .26$. A Sobel test showed that this reduction was marginally significant, $z = 1.85$, $p = .064$, suggesting that the interactive effect of social value orientation and feedback on negative emotions can, at least partly, be explained by perceptions of unfairness.

Discussion

Experiment 2.1 showed that a violation of the equality rule by one group member elicited negative emotional reactions among the other group members. More importantly, however, prosocials' negative emotional reactions were not influenced by the fact whether the group obtained the financial bonus or not, whereas for proselves the feedback manipulation did influence their negative emotions. The results thus seem to indicate that prosocials reacted because equality was violated. Hence, they evaluated the act of violating the equality rule in terms of fairness. However, proselves were primarily interested in their own outcomes because they reacted negatively when the public good was not obtained. In contrast, when

outcomes were positive their reactions were less negative. Hence, proselves evaluated the violation of equality primarily in terms of efficiency.

EXPERIMENT 2.2

In Experiment 2.1, we focused on negative emotions as prior research on injustice indicated that primarily anger-related emotions will be elicited. However, would this finding also imply that proselves would react more positive after that the group succeeded? In other words, if proselves primarily pursue satisfaction of their efficiency concerns, would they experience feelings of relief after hearing that the group eventually succeeds? Several reasons exist for examining also positive emotions. First, in addition to examining negative emotions, it is also necessary to look at positive emotional reactions (see e.g. development of emotion scales such as PANAS; Watson, Clark, & Tellegen, 1988), particularly since recent evidence has shown that positive and negative emotions constitute different dimensions (see e.g. Larsen & Diener, 1992). Second, justice researchers have noted that injustice not only elicits negative reactions, but rather that such “situations can produce widely different emotions” (Mikula et al., 1998, p. 781). Third, no evidence exists yet showing that distribution rules in social settings like social dilemmas affect positive emotions.

Thus, the focus of Experiment 2.2 was on participants’ positive emotional reactions after one group member violated the equality rule. More precise, success should lead to the accomplishment of efficiency and should thus elicit feelings of relief (particularly if the group initially failed). Therefore, we assessed positive emotions related to happiness. Following this, it should thus be expected that these emotions are more likely to be influenced by feedback among proselves.

Another improvement concerned the use of a public good dilemma in which participants played together with three other group members and actually experienced the impact of our feedback manipulation. Participants were assigned to a four-person group and had to play a step level public good dilemma. Again, participants received information whether the threshold was achieved or not, and, as such, whether the

financial reward was obtained or not. In agreement with Experiment 2.1, we expected that prosocials' emotional reactions would remain the same, regardless whether the group failed or succeeded. Proselfs, on the other hand, were expected to adapt their positive emotional reactions as a function of the group's outcome feedback.

Method

Participants and design

One hundred and three undergraduate psychology students participated in exchange for course credits and an additional 2 euros. A 2 (social value orientation) x 2 (feedback) between-subjects design was used. Participants were assigned randomly to the feedback conditions.

Procedure

Upon arrival in the laboratory, participants were welcomed and seated into separate cubicles, each containing a table, a chair, and a computer. All instructions were provided via the computer.

Assessment of the social value orientation measure. As in Experiment 2.1, participants were asked to complete the nine-item Decomposed Games measure to assess their social value orientation. In the present study, 28 (27.2%) participants could be classified as prosocials, 34 (33%) as individualists, and 17 (16.5%) as competitors. Twenty-four participants (23.3%) could not be classified according to the criteria of the Decomposed Games measure. Individualists and competitors were classified as proselfs ($n = 51$). Thus, a total of 79 participants could be classified. As in Experiment 2.1, to analyze the emotional reactions of the participants, only those classified participants were included in the analyses if the participant's contribution was equal to or less than one standard deviation ($5.94 < \text{contribution} < 14.06$) from the equality rule, resulting in a total of 56 participants.²

Introduction of the public good dilemma. After completing the social value orientation scales, participants were introduced to the public good dilemma. Participants were led to believe that they were part of a group of four people and that each member of the group would be allocated a different identification number (in reality, however, each participant received number 3).

The task was introduced as an investment game in which they could earn money for themselves and for the group. All participants received an endowment of 20 points. A group bonus of 80 points could be obtained if the group as a whole managed to contribute 40 points. If the threshold of 40 points would not be reached, participants would lose their contribution. All the points that they kept would accrue to themselves.

After participants were cued for their understanding of the dilemma game (all participants answered the comprehension questions correctly), they were told that they would participate in a number of contribution sessions. In addition, to increase commitment to the task, participants learned that all the points that they would earn across all contribution sessions would be exchanged for monetary rewards (One point = 0.055 euro).

Manipulation of feedback. After participants decided how many of their personal endowments they contributed to the public good, they were informed that the group had not succeeded in contributing enough points to receive the financial reward. Then, contributions of all group members were shown on the computer screen. They learned that two persons contributed 10 points, and that one person (= violator) contributed only 2 points. This means that two persons used the equality rule, and that the other person violated the equality rule.

²There is a discrepancy between Experiment 2.1 and 2.2 with respect to the numbers of participants that were eliminated. A possible explanation may be that Experiment 2.1 was a scenario study in which people had to indicate how they might react. Hence, in such situations, one's own financial interest is not really at stake and therefore self-interest usually plays a less important role; consequently, deviations from the equality rule should be less frequent.

Thereafter, they were informed that there would be a possibility for the group to earn the financial reward after all. That is, a chance procedure (see e.g. Samuelson & Allisson, 1994, for the validity of such procedures) would be run on the computer to see if the financial bonus could still be awarded or not. In addition, participants learned that there was a fifty percent chance that the bonus could be awarded or not. Such a chance procedure communicates an implicit positive message of potential success (i.e., that the financial reward still could be obtained). Hence, such a procedure should facilitate the elicitation of positive emotions (see Brendl & Higgins, 1996).

As a result of this chance procedure, half of the participants learned that the group failed in attaining the financial bonus, whereas the other half of the participants were told that they succeeded in earning the financial reward.

Dependent measures. All questions were answered on a 7-point scale (1 = not at all to 7 = very much so). The dependent measures were the same as in Experiment 2.1 except for the emotion scores. In the present study the positive emotions “happy”, “elated”, and “relieved” were assessed. These items were combined to form one average positive emotion score (Cronbach’s $\alpha = .61$). Finally, participants were thanked, debriefed, and paid.

Results

Expectations and behavior prior to feedback

These measures were taken before the manipulation of outcome feedback was presented. First, a one-way ANOVA with social value orientation as independent variable was conducted on the scores of (1) the amount that participants expected the other participants to contribute, (2) the contribution participants considered to be fairest, and (3) their own contribution to the public good. These analyses revealed an effect for social value orientation on the question of the fairest amount, $F(1, 77) = 12.33$, $p < .005$, and the actual amount that participants contributed, $F(1,$

77) = 6.94, $p < .05$, but not on the expected contribution, $F(1, 77) = 1.80$, $p < .19$. For both questions regarding the fairest contribution ($M_s = 12.93$ vs. 10.24, $SD_s = 4.57$ vs. 2.26; respectively) and participants' actual contribution ($M_s = 12.25$ vs. 9.82, $SD_s = 4.08$ vs. 3.82; respectively) it was found that prosocials donated more points to the public good than proselfs.

Emotional reactions

A 2 (social value orientation) x 2 (feedback) ANOVA on the composite score of the positive emotions revealed only a significant interaction, $F(1, 52) = 4.39$, $p < .05$ (see Figure 2.3).

Tests for simple effects showed that proselfs exhibited stronger positive emotions when the group succeeded than when the group failed ($M = 3.61$, $SD = 0.23$ vs. $M = 2.75$, $SD = 0.22$ respectively), $F(1, 52) = 7.17$, $p < .05$. No such difference was found between the success and failure conditions for prosocials ($M = 2.81$, $SD = 0.28$ vs. $M = 3.08$, $SD = 0.34$, respectively), $F(1, 52) < 1$, $p < .53$.

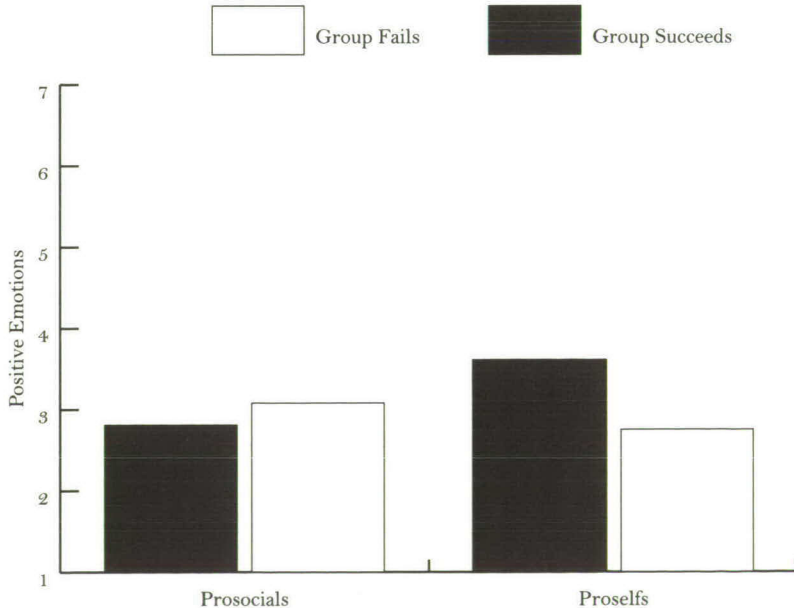


Figure 2.3. Positive Emotions (Y-axis) after a Violation of Equality as a Function of Outcome Feedback (Success or Failure of the Group) and Social Value Orientation (X-axis).

Discussion

As in Experiment 2.1, the results of Experiment 2.2 showed that participants' emotional reactions were a function of the interaction between social value orientation and feedback. That is, proselves were sensitive toward feedback information to base their positive emotional reactions on. In contrast, prosocials' positive emotions were not influenced by the feedback conditions. Thus, prosocials seem to evaluate the use of the equality rule primarily in terms of fairness concerns, whereas proselves' main motive to evaluate the use of the equality rule is efficiency.

GENERAL DISCUSSION

The present chapter attempted to gain more understanding in the motives that guide the use of the equality rule. An important aspect of this chapter is that we were able to integrate two different perspectives on the equality rule. These perspectives are that equality is related to efficiency and to fairness (i.e., equality). The results of the two experiments indicate that both motives are important determinants of the use and evaluation of the equality rule, but that people's social value orientations determine which of these motives dominate. Prosocials' emotional reactions in situations of injustice appear to be primarily determined by concerns for fairness because they remain more negative and less positive whether or not the public good was achieved. Proselfs' emotional reactions, however, are dependent on the outcome feedback, because when the public good is provided they are less negative and more positive in their reactions. Hence, proselves seem to be primarily the result of efficiency concerns. These findings are in line with Messick's (1999b, p. 217) statement that "Cooperators see the cooperation/competition distinction as a moral dimension, whereas competitors see it as morally neutral".

Thus, based on these findings, we can say that equality in contributions (and outcomes; as the present study used symmetric public good dilemmas) is an instance of fairness. This finding aligns well with recent research on the integrative model of social value orientation (Van Lange, 1999). Research on this model has demonstrated that, in addition to

maximizing joint outcome, prosocials are truly motivated to pursue equality in outcomes and contributions (De Cremer & Van Lange, 2001), and that they perceive this act more in terms of what social value orientation researchers refer to as morality (Liebrand et al., 1986; Van Lange, 1992).

The present findings can as such be seen as extending previous research on the equality rule in social dilemmas in several ways. First, earlier studies on the use of equality examined whether people use the equality rule and under which circumstances they may deviate from it (Allison et al., 1992; Allison & Messick, 1990; De Cremer, 2003; Messick, 1993; Roch et al., 2000; Samuelson & Allison, 1994), and concluded that people use the equality rule as a decision heuristic. That is, this rule is used because it is simple and easy to apply in symmetric social dilemma situations. In support of this simplicity interpretation, research showed that when, for example, goods are indivisible (i.e., individual shares are not easy to calculate), and the allocation situation thus becomes more difficult, people are motivated to take more than an equal share (Allison et al., 1992). Again, the major limitation of this type of research has been that it did not address directly the question which motives guide people's use of the equality rule in social dilemmas, something the present chapter aimed to do.

The present chapter examined this question by introducing a new research paradigm in which the group's contributions did not meet the threshold because one group member violated the equality rule. If equality is a coordination rule used by most people in symmetric social dilemmas, it can be assumed that group members expect others to use the rule as well. As such, assessing people's reactions as a consequence of someone not using the equality rule may provide much insight in the motives guiding equality. If people react negatively upon this violation, regardless whether the public good is obtained or not, support is found that the use and evaluation of equality is guided not only by efficiency concerns, but also by a fairness concern constituting morality (Messick, 1999b); something that the present chapter showed.

Second, the present chapter demonstrated our predictions on people's emotional reactions. To date, social dilemma research has largely failed in

assessing people's emotional reactions (although some first steps have recently been taken, see e.g. Sanna, Parks, & Chang, 2003), though recent claims have been made that emotions play an important role in decision-making (Loewenstein & Lerner, 2002). By demonstrating these emotional effects, the present chapter as such provides evidence that unjust acts may reveal emotional consequences, indicating that instances of justice in mixed-motive situations can also be thought of as an affective event (see also Cropanzano & Ambrose, 2001; Weiss et al., 1999). Interestingly, the findings also indicate that unjust behavior by one group member elicits emotional reactions among others. In turn, it may then be that these elicited emotions may instigate a variety of actions towards the violator (Schroeder et al., 2003). Future social dilemma research is urged to examine how people's emotional reactions may determine such behavioral reactions.

Before closing, some limitations and strengths of the present research need to be mentioned. A potential limitation is that social value orientation was assessed rather than manipulated. Although this is common practice, recent studies have introduced an operationalization of social value orientation by situationally cueing the respective social motives (De Dreu, Giebels, & Van der Vliet, 1998; De Dreu & McCusker, 1997). Future research may use this manipulation to unravel further when fairness or efficiency concerns determine the use of the equality rule.

Another potential limitation is that in our first experiment we used a scenario-based approach. Particularly in imaginary situations, people's attitudes about how they might behave may not match up that well with their actual behavior (cf. Ajzen & Fishbein, 1977; particularly attitude strength in such situations may be low, see also Kraus, 1995). Furthermore, especially people's negative reactions (as a function of social value orientation) about the situation in the group may also have been influenced by concerns about self-presentation or self-enhancing processes. However, it is also relevant to note that evidence exists that the measurement of social value orientation is independent of tendencies toward favorable self-presentation (Platow, 1992), making it less realistic that participants were afraid of exhibiting their emotions. Second, the fact that the results of Experiment 2.1 revealed good evidence for the

moderating role of social value orientations also shows that the scenario setting may have motivated participants to react like in real-life instances. This observation follows Lind and Tyler's (1988) argument that the use of scenarios using known situations to the participants (as was the case in the present research: the description of a students' society) is believed to enhance mundane realism.

Further, because we used symmetric public good dilemmas in the present research we were not able to distinguish whether prosocials were more focused on equality of final outcomes or on equality of contributions (i.e., unequal contributions also result in unequal final outcomes in symmetric situations). Interestingly however, prior public good dilemma research (Van Dijk & Wilke, 1995) suggests that step-level public good dilemmas (i.e., dilemmas in which the public good will only be provided if contributions surpass a certain threshold) may evoke a stronger focus on contributions than on final outcomes.

A final potential limitation is that we focused only on emotional reactions, and did not include behavioral reactions. However, for now, our approach sufficed because our primary aim was to gain an understanding in the reason how people evaluate the use of the equality rule. It is likely, however, that emotions will guide people's specific actions like exit and retributive behavior. Future research is needed that examines the link between emotions and such behaviors in social interdependence settings. Further, the use of equality could also be determined by the culture one lives in, implying that equality also appeals to people because it is normative. In fact, Hofstede (1991) argued "organizations in a masculine society stress results and want to reward on the basis of equity, organizations in a feminine society, however, are more likely to reward people on the basis of equality" (p. 93). Thus, equality may not always be favored and, therefore it would be exciting for future research to conduct studies on equality and emotions in social dilemmas in different cultures.

The important strength of the present chapter is that our approach provided insight in the motives guiding people's use and evaluation of the equality rule by employing a new research paradigm and by assessing people's emotional reactions (something prior social dilemma research has largely failed to do). This approach showed across two studies that

proselfs evaluate equality more in terms of efficiency, whereas prosocials evaluate its use more in terms of fairness. Prosocials' emotional reactions remained evenly strong, regardless of the group's outcome. Proselfs' emotional reactions, however, diminished when personal outcomes became more positive (i.e. the group succeeded). As such, proselfs seem to rely more on the assumption that: 'All is well, that ends.'

Chapter 3

Coordination Rules and Making Inquiries: Justifying Equality Violations

For hard cash, we will lie and deceive
Pink Floyd, The Dogs of War

Individual and collective interests are often in conflict. Such a conflict is at the basis of the problem of the provision of public goods. In order to obtain these public goods individual contributions are needed. As long as people's contributions surpass a given threshold, the collective can enjoy it even without having made a personal contribution (i.e., impossibility of exclusion). However, a problem arises if the majority of people refrain from contributing to the public good, because resources for providing the public good will fall short, as the threshold will not be surpassed. Hence, individual contributions to the public good can be critical in order to maintain it. This specific type of conflict represents a social dilemma (Komorita & Parks, 1994), and more specifically is defined as a step-level public good dilemma (Van der Kragt, Orbell, & Dawes, 1983).

This Chapter is based on Stouten, De Cremer, & Van Dijk (2005a). *Violating equality in social dilemmas: Emotional and retributive reactions as a function of trust, attribution, and honesty*. Manuscript submitted for publication.

Research on decision making in step-level public good dilemmas has shown that an important manner to maintain public goods is that people prefer to anchor their decisions on certain distribution rules (see e.g. Van Dijk & Wilke, 2000). For example, it was shown that in symmetric social dilemmas (in which all group members have an equal endowment) people generally prefer to use the equality rule to base their decisions on. People divide the threshold that has to be surpassed by the total number of group members (= equal share) to determine how much each should contribute (e.g. Deutsch & Gerard, 1955).

Prior research concentrated on what most people *do*, that is, people prefer the use of the equality rule because it is easy to use (see also Samuelson & Allison, 1994), and considered to be fair (Chapter 2, Stouten, De Cremer, & Van Dijk, in press-a). Because of the fact that people use the equality rule out of efficiency or fairness concerns, it has been suggested that as a result people will generally expect that others will use the equality rule too. Despite this assumption, it has not been investigated yet how people react and make sense of the situation when a group member violates the equality rule. How people react to violating equality within groups is relevant to understand the role that equality plays within groups, and to see how these issues influence people's emotional and retributive reactions.

In the present chapter, we examine the role that consequences of attribution processes play in determining people's reactions toward someone violating the equality rule (i.e., is the violator responsible or not). The fact that the violation is intentional (or not) should elicit emotions that are related to anger and disappointment (Averill, 1983; Bies & Tripp, 2002; Ortony, Clore, & Collins, 1988). Furthermore, a focus on retributive actions is important as these actions restore the injustice done (Bies & Tripp, 1996; Carlsmith, Darley, & Robinson, 2002), and incorporate excluding the violating group member (Kerr, 1999), and punishment of this person (Yamagishi, 1986). In addition, we also argue that the influence of attribution processes will be a function of the degree of trust that group members express towards others.

ATTRIBUTION

Symmetric step-level public goods are most efficiently and fairly solved if all group members adopt the equality rule. However, if one group member violates this rule by contributing less than an equal share, groups fail in surpassing the threshold. As a consequence, such a violation can be perceived as unexpected, unfair, and unintelligent behavior (see e.g. Rutte & Messick, 1995; Stouten et al., in press-a). Under such circumstances, group members may be expected to pose the question *why* this violation happened and they will try to infer causes (Blount, 1995, Heider, 1958; Weiner, 1986). Thus, attribution processes will come into play to find out why the violator refrained from using the equality rule.

It has been argued that in the process of finding causal explanations, people look for the intentionality and responsibility for the act, which results in instances of blame (Shaver, 1985; Greenberg, 1990; Rutte & Messick, 1995). This responsibility and blame for an unexpected and unwanted outcome makes people upset and induces strong emotional reactions, particularly anger-related emotions (Averill, 1983; Bies & Tripp, 2002; Johnson & Rule, 1986). This suggests that attribution processes and ascriptions of blameworthiness activated by violations of equality are likely to elicit strong emotional responses. Using these insights, we suggest that if a group member is seen as intentionally violating equality other group members will be likely to display strong emotional, and consequently, retributive reactions to restore the injustice toward the violator (e.g. Kidd, & Utne, 1978; Shaver, 1985; Weiner, 1985).

These attribution processes are based on the type of information that the violator will give: It was my own decision (i.e., an internal) or it was due to the situation (i.e., external). Therefore, it will be important to examine how people will react when they find out that the violator gives an external explanation? In these circumstances, the trust people have will play an important role, because people's reactions will be influenced by the fact whether or not they believe the violator's explanation. As such, it is more likely that the type of justification provided by the violator will be more easily accepted by others if they are high in trust toward people.

TRUST IN SOCIAL DILEMMAS

In social dilemmas, trust is an important factor as it has been shown that higher levels of trust increase levels of cooperation, and particularly so in public good dilemmas (De Cremer, Snyder, & Dewitte, 2001; Parks & Hulbert, 1995). Although trust is of major importance to interdependent decision makers (see e.g., Pruitt & Kimmel, 1977), it is also known that trust is not easily defined. A commonly accepted definition of trust is provided by Mayer, Davis, and Schoorman (1995) who argue that trust is: “the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party” (p. 712). This definition suggests that when trust is high, people will have confidence in another’s goodwill, and will expect others to act in a moral and honest way (De Cremer et al., 2001; Ring & Van De Ven, 1994).

Applying this to what happens when the violator of equality provides an explanation to why he or she violated the equality rule, high trusters will be more willing to believe the external explanation provided, as those group members will have less doubt about the moral intent and goodwill of the person justifying his or her action. Hence, high trusters’ reactions will be most likely to be influenced by this external explanation. Giving an explanation has been shown to be a good alternative to restore trust, and can be effective to re-establish cooperation (Bottom, Gibson, Daniels, & Murnighan, 2002) and to improve people’s perceptions of the violator’s integrity (Kim, Ferrin, Cooper, & Dirks, 2004).

THE RESEARCH IN THE PRESENT CHAPTER

The reactions that were studied across all three studies are people’s emotional reactions. To date, social dilemma research has paid little attention to this type of reactions, despite the fact that recent literature specifically outlines the importance of emotions in decision-making (Hertel, 1999; Knapp & Clark, 1991; Loewenstein & Lerner, 2002). Moreover, the perception of injustice (e.g., a violation of equality) often

results in a range of emotional reactions (see e.g., Mikula, Scherer, & Athenstaedt, 1998; Weiss, Suckow, & Cropanzano, 1999), which frequently elicit a number of behavioral and perceptual reactions towards those who violate the justice principle (see also Goldberg, Lerner, & Tetlock, 1999; Schroeder, Steel, Woodell, & Bembenek, 2003). Also, Weiner (1986) showed that depending on the attribution process, diverse emotional reactions may be evoked, in particular emotions related to anger. The experience of such negative emotions may then be the instigator of punishing behavior (i.e., retributive justice; see Darley & Pittman, 2003; Tyler, Boeckmann, Smith, & Huo, 1997).

To examine our predictions, in the present experiments, participants played a symmetric four-person public good dilemma. After the contribution session, group members learned that the group did not succeed in providing the public good because one group member violated the equality rule. After this, each group member was asked to indicate which group member has to give an explanation about why he or she contributed that particular amount. Subsequently, participants learned that it is the alleged violator who is required to give an explanation.

EXPERIMENT 3.1

Experiment 3.1 is a preliminary test to provide some first empirical evidence that high trusters relative to low trusters indeed put more emphasis on the reasons that a violator provides to account for his or her violation of equality. How exactly will the type of attributions influence emotional reactions? Suppose that the violator gives an explanation that could be ascribed to personal characteristics (internal attribution) then high trusters are expected to react severe because the violation emerged from an intentional act. That is, the violator acted out of self-interest. However, suppose that the violator attributes his action to an external factor (external attribution) then high trusters' emotional reactions are expected to be less severe, because the reason behind the violation lies outside the violator's person. Low trusters, however, are not expected to be influenced by the attribution information. The emotion under investigation in Experiment 3.1 is irritation. As mentioned earlier,

reactions toward unjust acts are actually accompanied by anger-related emotions (De Cremer, 2004; Weiss et al., 1999), and one specific and important member of the category anger is ‘irritation’ (Russell & Fehr, 1994). Moreover, this specific emotion is particularly likely to be elicited if expectations are violated, as is the case among high trusters.

Method

Participants and design

Participants were 80 undergraduate students participating in exchange for course credit. The design was a 2 (Trust: high vs. low) x 2 (Attribution: internal vs. external) between subjects-design. Participants were assigned randomly to the attribution conditions. Because three participants contributed their entire endowment of 500 euro, and hence, failure feedback about the provision of the public good could never be credible, these participants were discarded.

Procedure

Participants were approached by a research assistant, were seated at a table, and were given a questionnaire.

Assessment of trust. Before reading the scenario, participants first answered a general trust questionnaire (Yamagishi, 1994). This questionnaire contains six statements (1 = not at all, 7 = very much so): (1) “most people are basically honest”, (2) “most people are trustworthy”, (3) “most people are basically good and friendly”, (4) “most people are trustful of others”, (5) “I am trustful”, and (6) “most people will respond in kind when they are trusted by others”. These items were combined to form one average trust score (Cronbach’s $\alpha = .78$). Using a median split (median = 4.50), 37 low trusters and 33 high trusters could be classified. Hence, 7 participants scored the median score and were excluded from analyses.

Introduction of the public good dilemma. Thereafter, the public good dilemma was introduced. Participants read the scenario in which it was told that together with three other group members they would be going on a university study trip. Then, each participant was said to receive 500 euro from a state subsidy (each student in the Netherlands receives this to cover to a great extent their education expenses), which they, if they wished to, could invest in the study trip (the university considered extra study trips very valuable to students' education). If the group managed to invest a total amount of 1000 euro, then the university would provide a financial bonus for the payment of the trip. This means that if the threshold of 1000 euro would be reached, the university would add another 2000 euro, which would be divided equally.

To check participants' understanding of the situation some comprehension questions were asked. All participants answered those questions correctly. Then, participants decided which amount they wished to contribute from their personal endowment. Thereafter, participants were given additional information about the amount of money the other three group members contributed: Two members of the group used the equality rule (= 250) and the fourth group member violated the rule by contributing 100 euro. Hence, participants then learned that they failed to reach the threshold of 1000 euro.

Manipulation of attribution. Then, half of the participants were informed that the group member who violated equality, gave the explanation that he thought that others would contribute a sufficient amount of money in order to reach the threshold, so that he did not want to contribute much (*internal attribution*). The other half of the participants learned that the group member who violated equality said that he did not yet receive the state subsidy on his personal account, so he did not dare to contribute much (*external attribution*).

First, to check for the effectiveness of the attribution manipulation, participants were asked to what extent they thought the given explanation of the violator was socially appropriate in a way that his behavior could be excused for (on a 7-point scale ranging from 1 [= not at all] to 7 [= very much so]). After this, participants were asked to what extent participants

felt irritated (on a 7-point scale ranging from 1 [= not at all] to 7 [= very much so]) regarding what happened within the group. Afterwards, participants were debriefed and thanked for their participation.

Results

Manipulation of attribution

A 2-way ANOVA on the attribution check item revealed only a main effect for attribution, $F(1, 66) = 23.47$, $p < .001$, $\eta^2 = .26$, showing that participants thought that the explanation was more appropriate (as the violator could be excused for his behavior) when an external ($M = 3.20$, $SD = 1.62$) than an internal reason was given ($M = 1.71$, $SD = 0.75$). No effects for trust, $F(1, 66) = 0.25$, $p < .62$, $\eta^2 = .00$, or the interaction effect, $F(1, 66) = 1.78$, $p < .19$, $\eta^2 = .03$, were found.

Contribution to the public good dilemma

As expected, a 2-way ANOVA on the amount that participants contributed showed no significant effects ($M = 253.93$, $SD = 17.87$). This indeed shows that the equality rule is used by most participants.

Irritation

A 2-way ANOVA¹ on the irritation item revealed a main effect for attribution, $F(1, 66) = 8.56$, $p = .005$, $\eta^2 = .12$, and a significant interaction, $F(1, 66) = 5.03$, $p < .05$, $\eta^2 = .07$ (Table 3.1). A closer examination of this interaction showed that high trusters were more irritated when the violator provided an internal rather than an external reason, $F(1, 66) =$

¹Because in Experiment 3.2 and 3.3 ANOVA's were used to rapport the results, we decided, for reasons of consistency and ease of interpretation, to use ANOVA in Experiment 3.1 as well. However, a hierarchical regression analysis using trust and attribution in step 1 and adding the interaction term in step 2 also revealed a main effect for attribution, $t(74) = -2.37$, $p < .05$, $\beta = -.27$, and an interaction effect, $t(73) = -2.70$, $p < .01$, $\beta = -1.89$, as such paralleling the ANOVA results.

12.64, $p < .005$, whereas this was not the case among low trusters, $F(1, 66) = 0.25$, $p < .63$.

Table 3.1. Means and standard deviations for irritation as a function of trust and attribution.

Trust	Internal Attribution	External Attribution
Low	5.39 (1.09)	5.16 (1.07)
High	6.00 (0.87)	4.25 (2.30)

Note. Higher ratings indicate higher levels of irritation. Standard deviations are within parentheses.

EXPERIMENT 3.2

Experiment 3.1 provides some first evidence that a violation of the equality rule and the type of explanation a violator gives influences emotional reactions in social dilemmas, especially if other group members are high in trust. However, in Experiment 3.1, trust was operationalized by means of a dispositional variable. In Experiment 3.2 trust will be manipulated rather than assessed. This will make it possible to generalize the obtained effects not only to a disposition of trust, but also to a more global state of trust. Another important difference is that in Experiment 3.2 no scenario was used, but participants played the social dilemma in real groups.

As in Experiment 3.1, participants were part of a four-person group, playing a step-level public good dilemma. Group members first made their contribution decision and afterwards noticed that one group member violated the equality rule. Different from Experiment 3.1, participants were able to choose themselves which group member had to give an explanation for his/her decision. Hence, participants were asked to

indicate which group member had to justify him or herself. Again, as in Experiment 3.1, internal or external attribution information was given. Similar predictions as in Experiment 3.1 were made. In Experiment 3.2, we decided to use a wider range of anger-based emotions as dependent measure, including the emotions disappointment, indignation, and embitterment, particularly because these emotions refer to feelings of expectations that are not met (Frijda, 1986), and in the present studies, equality is the expected behavior. Moreover, the emotion disappointment will be defined in terms of person-related disappointment, as this emotion refers to an undesirable decision someone made and the emerging feeling that this person ought to apologize (Van Dijk & Zeelenberg, 2002). We expect that high trusters' emotional reactions will be influenced by the attribution information, whereas low trusters will not differ in their emotional reactions.

Method

Participants and design

One hundred and eight undergraduate psychology students participated voluntarily and were paid 5 euros. Six participants did not remember correctly whether the threshold was reached or not by the group, and seven participants allocated a total of 20 chips to the public good, which would imply that the bonus would be obtained, and hence failure feedback would be regarded as fake to them (see below). All these participants were discarded leaving a total of 95. Participants were assigned to a 2 (trust) x 2 (attribution) between-subjects design and allocated randomly to both the trust and attribution conditions.

Procedure

Upon arrival in the laboratory, participants were seated in separate cubicles containing a chair, a table, and a computer. All further instructions were presented on the computer screen.

Manipulation of trust. Before starting with the decision-making study, participants were first introduced to a supposedly other and unrelated study examining how people estimate situations and choices. In reality, this study was the trust manipulation, which has proven to be very successful in manipulating people's trust levels in social dilemmas (Mulder, Van Dijk, De Cremer, & Wilke, in press). The manipulation aimed to activate a sense of trust or distrust toward others. Previous research showed that people want to behave in a similar manner as other people (Schroeder, Jensen, Reed, Sullivan, & Schwab, 1983), and the fact that trust evokes trust, and distrust evokes distrust (Blomqvist, 1997).

Participants were explained that in a previous study people had to play a game in which two players were asked to make an independent decision about the allocation of profits (Figure 3.1). The rules of this game were then explained. The first player in this game could choose between two options: the first option was that both players received an equal amount of money (*choosing right*). The second option was that the first player handed the choice over to the second player (*choosing down*).

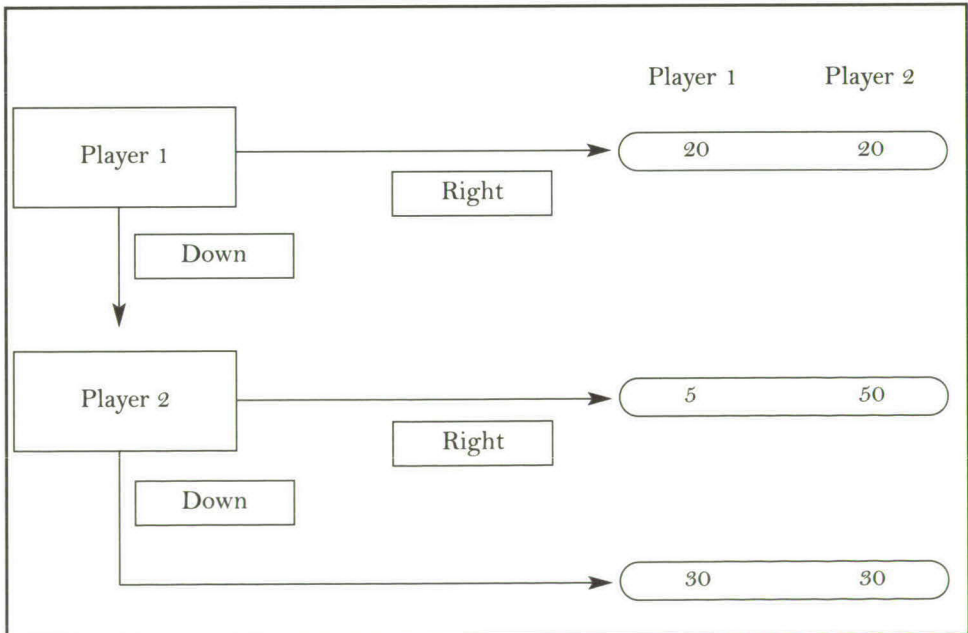


Figure 3.1. Game Used in Experiment 3.2 and 3.3 to Manipulate Trust.

The second player, then, could also choose between right or down. Choosing right would imply that the first player would receive an amount of money that was the lowest amount this player could obtain. In this situation, the second player would then obtain the highest amount of money. However, the second player could also opt for the second option (down), which would mean that both players would receive an amount of money that was higher than the amount that player 1 could obtain for both players when choosing right. Hence, both players could obtain more money if player 2 would choose down. However, player 2 would receive the highest amount of money by choosing right. Player 1, thus, had to decide if player 2 could be trusted before handing over the choice to this player, for if player 1 would mistakenly trust player 2, there would be a considerable decrease in profits for player 1.

After the rules were explained, some comprehension questions were asked. All participants answered these questions correctly. Then, it was said that, the results of four participants (taken from previous studies), who were all in the position of player 1, would be shown. Further, participants would learn the choices that each of these players made and the reasons why each player made that particular choice. In the *low trust* condition, participants learned that all four players made the “right” choice, meaning that both players would receive an equal amount of money that was less than the amount that player 2 could obtain by choosing the down option. After the choice of player 1 was known, the reason for this player’s decision was presented. An example is: “I don’t trust upon player 2 choosing down, because we don’t know each other”. In the *high trust* condition, participants learned that each of the four players chose the down option, which meant that player 1 handed the choice over to player 2. By doing this, player 1 indicated that player 2 was to be trusted. Here, each player also expressed a reason for choosing down: “I trust the other player will choose down, even if we don’t know each other”.

The introduction of the public good dilemma. After that, participants learned that they, together with three other group members, formed a group, and that each group member would be referred to by means of a

number between one and four (in reality all participants received the number two).

Further, participants learned that they possessed a personal endowment of 20 chips (each chip = 0.05 eurocents), which they, if they wished to, could contribute. If the group managed to reach a given threshold of 40 chips, then the group would receive a bonus, which would be divided equally among the four group members. Hence, when the threshold of 40 chips would be reached, the group would earn 80 chips, that is 20 chips each.

After explaining the situation, some comprehension questions were asked in order to check whether participants understood the situation. All participants answered these questions correctly. Then, participants could decide which amount they wished to contribute to the public good. After their decision, participants learned about the other members' contributions. First, it was said that the group did not contribute a sufficient amount of chips in order to reach the threshold. Then, the exact amount of chips each group member contributed was shown. Participants learned that two group members contributed an equal share (= 10 chips) and a third member violated the equal share by contributing 2 chips.

Manipulation of attribution. Following the presentation of group members' contributions, participants had to vote which group member would be asked by the experimenter to give an explanation about his/her decision. The group member who received the most votes would be asked to provide this information. Participants then wrote on a piece of paper the number of the group member they wanted more information from. The experimenter then collected the sheets of paper and supposedly handed them over to the group member who received the most votes. In reality, participants were always informed that the violator (i.e., contributing two chips) was asked for additional information. After this, participants waited until the experimenter reentered giving them a handwritten note containing the explanation that the violator had given. In the *internal attribution* condition, participants learned that the violator gave the following explanation: "I gave a lower contribution, because I thought that the others would contribute enough chips to reach the

threshold, so that I did not have to contribute much.” In the *external attribution* condition, the violator gave the following information: “The computer program failed for a few seconds; hence, I was not able to read the amount that the group had to contribute and how much my endowment was.”

Dependent measures. All questions were answered on a scale of 1 (= not at all) to 7 (= very much so). First, to check whether the manipulation of trust was successful participants were asked three questions: (1) if I were player 1, I would choose down, (2) if I were player 1, I would trust player 2, (3) if I were player 2, I would expect player 1 to choose down. These items were combined to form one average trust score (Cronbach’s $\alpha = .90$). Second, the successfulness of the attribution manipulation was checked by asking participants to what extent the contribution of the group member that was chosen to give some explanation could be ascribed to this person’s own choice. Then, participants were asked how they felt about the situation in the group: Disappointed, embittered, and resented. Those items were combined to form one emotion scale (Cronbach’s $\alpha = .78$). Finally, participants were debriefed, thanked, and paid.

Results

Manipulation checks

Manipulation of trust. A 2-way ANOVA on the average trust item showed only a main effect for trust, $F(1, 91) = 16.35, p < .001, \eta^2 = .15$, no effect for attribution, $F(1, 91) = 0.03, p < .88, \eta^2 = .00$, or an interaction effect, $F(1, 91) = 0.33, p < .57, \eta^2 = .00$. The effect for trust showed that participants in the high trust condition ($M = 5.38, SD = 1.63$) were more trustful than participants in the low trust condition ($M = 3.91, SD = 1.86$).

Manipulation of attribution. A 2-way ANOVA on the attribution manipulation question showed no effect for trust, $F(1, 91) = 1.19, p < .28, \eta^2 = .01$, no interaction effect, $F(1, 91) = 0.00, p < 1, \eta^2 = .00$, but did

show a main effect for attribution, $F(1, 91) = 16.82$, $p < .001$, $\eta^2 = .16$, indicating that participants in the internal attribution condition ($M = 6.23$, $SD = 1.08$) felt that the violator's contribution was more the result of the group member's personal choice than when the explanation was based on an external attribution ($M = 5.06$, $SD = 1.62$).

Contribution to the public good dilemma

As expected, a 2-way ANOVA on the amount participants contributed showed no significant effects ($M = 10.07$, $SD = 2.13$). This shows that most participants used the equality rule.

Emotional reactions

A 2-way ANOVA on the emotion scale revealed only a significant interaction for trust and attribution, $F(1, 91) = 6.46$, $p < .05$, $\eta^2 = .07$. Participants in the high trust condition reacted more negative when the group member provided an internal relative to an external attribution, $F(1, 91) = 3.82$, $p = .05$, whereas there were no differences in the low trust condition, $F(1,91) = 2.67$, $p < .11$ (see Table 3.2).

Table 3.2. Means and standard deviations for negative emotions as a function of trust and attribution.

Trust	Internal Attribution	External Attribution
Low	3.64 (1.51)	4.25 (1.38)
High	4.32 (1.03)	3.55 (1.32)

Note. Higher ratings indicate higher levels of negative emotions. Standard deviations are within parentheses.

EXPERIMENT 3.3

The findings of Experiment 3.2 showed that when trust was manipulated rather than assessed as in Experiment 3.1, high trusters were more strongly influenced by the violator's explanation to influence their emotional reactions, but this time on a wider range of emotions as the ones used in Experiment 3.1. If the violation of equality is explained in terms of external reasons, negative emotional reactions are less likely to be experienced than when it is explained in terms of internal reasons.

However, are high trusters always influenced by the given attribution information? The findings of Experiment 3.1 and 3.2 were found under circumstances where people assumed that the given attribution information is honest. But what would happen if people actually find out that the given information was a lie? This is not an uncommon situation because research on negotiations has shown that interdependent individuals often behave strategically and as such group members sometimes tend to modify the truth and try to lie to the other group members (Boles, Croson, & Murnighan, 2000; O' Connor & Carnevale, 1997; Pruitt, 1981; Robinson, Lewicki, & Donahue, 2000). As the provision of an external attribution explanation reduced negative reactions in Experiment 3.1 and 3.2, it could be expected that finding out that the violator lied would particularly affect the effectiveness of external information. That is, people's reactions will become more negative if it turns out that the given external information was a lie relative to when people do not know whether the information was lied about, whereas this will not be the case if the information is internally attributed. Moreover, prior research showed that deception has particular effects on perceptions of trustworthiness (O'Sullivan, 2003). Therefore, we expect that honesty of the given external information will influence high trusters' reactions.

Furthermore, building on the above prediction, it will also be the case that if high trusters know that the violator lied about the explanation, the type of attribution information given will not influence high trusters' emotional reactions anymore. Under these circumstances, a lying violator will be perceived as an unreliable and untrustworthy person regardless

what he or she says (Bies & Tripp, 1996; O'Connor & Carnevale, 1997; O'Sullivan, 2003).

These predictions are not only expected on emotional reactions, but are also applicable to our measures of retributive actions. In line with Schroeder et al. (2003, p. 26), we argue: "attributions of intentionality regarding the harm done to others is one of the triggers for revenge, particularly if the defectors may be seen as violating the trust of the other group members". Thus, retributive actions will emerge regardless of attribution information, when trust violation is proven (i.e., when it is known that the given attribution information is based on a lie). Therefore, in Experiment 3.3, we will also focus on multiple measures of retributive actions. A first known action in the social dilemma literature is excluding the violator from the group as it communicates that the violator is unwanted by the others, and as such is socially punished (Kerr, 1999). This approach is also in line with research that people violating justice rules become a salient target to direct retributive actions to (cf. Niehoff, Paul, & Bunch, 1998; Rabin, 1993; Rucker, Polifroni, Tetlock, & Scott, 2004; Trevino, 1992).

Other retributive actions that may be taken can also be related specifically to the harm that is actually done. One such specific retributive action is punishment. Punishing the violator for deviant behavior is a preferred method to further the group's interest and to see to it that the violator gets his or her "just desert" (e.g., Carlsmith, Darley, & Robinson, 2002). This holds that because of the group's financial loss, the violator eventually can be punished by imposing a financial fee upon this group member. Punishing a group member is a known strategy to increase cooperation (e.g., Fehr & Gächter, 2000; McCusker & Carnevale, 1995; Yamagishi, 1986). Punishment and related forms of action can thus be expected among high trusters if it turns out that the violator acted intentionally (internal attribution) as such following the suggestion that "deliberate defection requires retributive punishment, and the other group members ... are eager to administer that punishment because they are very angry" (Darley & Pittman, 2003, p. 332). Hence, because emotional reactions may especially activate punishment, it is also expected that the participants' negative emotional reactions underlie their willingness to

punish. When the violator is known to lie, however, punishment will not be a function of attribution information.

Thus, in Experiment 3.3, we expect that high trusters will react more intensely toward external attribution information if it turns out to be a lie than when it is honest. More specifically, external attribution information that is supposed to be honest is important as it will justify the violator's behavior and thus soften people's reactions, but once they know that type of information is dishonest, reactions will be more severe and intense. Finally, we expect that group members will discount the attribution information if the violator is known to lie.

METHOD

Participants and design

A total of 64 undergraduate psychology students participated voluntarily in exchange for 7 euros. Seven participants did not correctly remember whether the threshold was reached or not, and were therefore discarded (no participants contributed a share that would be enough to reach the threshold). Participants were assigned to a 2 (attribution) x 2 (honesty) between-subjects design and were allocated randomly to both the attribution and honesty conditions.

Procedure

Participants were welcomed and seated in separate cubicles containing a table, a chair, and a computer. All further instructions were presented via the computer screen. Trust was first installed by using a manipulation similar to the one used in Experiment 3.2, except for the fact that all participants were now in the high trust condition to accurately test our predictions regarding attribution and honesty. To see whether the installment of trust was successful, the question to what extent do you trust the other group members was asked. A 2-way ANOVA was performed on this question. As expected, the analysis revealed no significant results for attribution, $F(1, 53) = 2.02$, $p < .17$, $\eta^2 = .04$,

honesty, $F(1, 53) = 0.06$, $p < .81$, $\eta^2 = .00$, or for the interaction, $F(1, 53) = 0.29$, $p < .60$, $\eta^2 = .01$. Further, a t -test showed that responses to the item deviated significantly from the midpoint of the 7-point scale ($M = 4.75$, $SD = 1.27$), $t(56) = 4.48$, $p < .001$, indicating that we were successful in installing a general high level of trust among participants.

The introduction of the public good dilemma. After that, the same explanation about the public good dilemma as in Experiment 3.2 was given. Participants were again given a personal endowment of 20 chips, and the threshold that the group had to surpass (to earn the bonus of 80 chips) was again 40 chips.

After explaining the situation, some comprehension questions were asked in order to check whether participants understood the situation. All participants answered these questions correctly. Then, participants could decide which amount they wished to contribute to the public good. After participants made their decision, they learned about the other members' contributions. As in Experiment 3.2, it was said that the group did not reach the threshold and that two group members contributed an equal share (= 10 chips) and that a third member violated the equal share by contributing 2 chips.

Manipulation of attribution. Following the presentation of group members' contributions, the same attribution manipulation as in Experiment 3.2 was introduced.

Introduction of the honesty manipulation. After this, the experimenter entered the room and gave participants information concerning the honesty of the violator's attribution explanation. In the *honesty* condition, the experimenter told participants: "When I was in the other room, I noticed that the explanation the other group member gave you was indeed true. Hence, I am really convinced that this person did not lie when explaining his decision in the first contribution game to you". In the *dishonest* condition, participants were told that: "When I was in the other room, I noticed that the person, who earlier on in the experiment gave you an explanation, handled the game in a totally different way than he told

you. Hence, I am really convinced that this person lied when explaining his decision in the first contribution game to you”.

Dependent variables. All dependent variables were assessed on a 7-point scale ranging from 1 (not at all) to 7 (very much so). First, to check for the manipulation of honesty, participants were asked to what extent they evaluated the group member who provided them with an explanation as honest. Then, they were asked how irritated, disappointed, and frustrated they felt about the situation in the group. Both the emotions irritation and frustration are known to be related to anger (Shaver, Schwartz, Kirson, & O’ Connor, 1987), whereas disappointment refers to person-related disappointment (Van Dijk & Zeelenberg, 2002). These items were combined to form one emotion scale (Cronbach’s $\alpha = .89$).

Furthermore, it was asked which group member they wanted to exclude from the group, and to what extent they wanted to exclude this person from the group. Then, it was asked how many sessions they wanted to exclude the violator. Finally, participants were provided with the opportunity to punish the violator. They could decide to give punishment points to the violator. Each point would punish the violator with one point, which would be subtracted from his personal endowment. Finally, participants were debriefed, thanked, and paid.

Results

Manipulation check

To test for the effectiveness of the honesty manipulation, a 2-way ANOVA was performed on the honesty question, revealing a main effect of honesty, $F(1, 53) = 10.64, p < .005, \eta^2 = .17$, and no effect for attribution, $F(1, 53) = 0.25, p < .88, \eta^2 = .00$, or the interaction, $F(1, 53) = 0.60, p < .44, \eta^2 = .01$. The effect of honesty showed that participants in the honesty condition evaluated the violator as more honest ($M = 4.59, SD = 1.78$) than participants in the dishonest condition ($M = 3.00, SD = 1.61$).

Contribution to the public good

As expected, a 2-way ANOVA on participants' contributions showed no significant effects ($M = 9.35$, $SD = 3.20$). This shows that most participants anchored their decision on the equality rule.

Emotional reactions

A 2-way ANOVA on the average emotion scale showed the expected significant interaction effect, $F(1, 53) = 8.48$, $p < .01$, $\eta^2 = .14$ (see Table 3.3). Participants in the external attribution condition showed stronger

Table 3.3. Means and standard deviations for the dependent measures as a function of honesty and attribution.

Dependent Measures	Honesty		No Honesty	
	Internal Attribution	External Attribution	Internal Attribution	External Attribution
Negative Emotions	4.70 (1.41)	3.05 (1.36)	3.69 (1.37)	4.18 (1.26)
Exclusion	5.00 (1.41)	2.84 (1.54)	4.33 (1.45)	4.54 (1.85)
Number of Sessions to Exclude	4.30 (3.83)	0.68 (1.25)	2.53 (3.00)	2.85 (3.05)
Financial Punishment	31.20 (29.62)	10.21 (17.89)	22.40 (27.53)	28.46 (30.19)

Note. Higher ratings indicate higher levels of negative emotions and willingness to engage in retributive actions. Standard deviations are within parentheses.

negative emotions when the violator lied about the given explanation than when he was honest, $F(1, 53) = 5.39, p < .05$. No effect for honesty emerged in the internal attribution condition, $F(1, 53) = 3.37, p < .08$. In addition, when the violator was honest, participants showed stronger negative emotions in the internal rather than the external attribution condition, $F(1, 53) = 9.78, p < .005$. However, when the violator lied no effect for attribution was found, $F(1, 53) = 0.92, p < .35$.

Retributive reactions

Exclusion from the group. Results first of all showed that from the 57 participants, 54 chose the violator to be excluded from the group (94.7%). Further, a 2-way ANOVA on the exclusion item showed a main effect for attribution, $F(1, 53) = 5.21, p < .05, \eta^2 = .09$, and an interaction effect, $F(1, 53) = 7.62, p < .01, \eta^2 = .13$ (see Table 3.3). This interaction showed that group members in the external attribution condition wanted to exclude the violator more when he lied relative to when he was honest, $F(1, 53) = 8.98, p < .005$. No differences were found for the honesty manipulation in the internal attribution condition, $F(1, 53) = 1.08, p < .31$.

Further, when the violator was honest participants chose to exclude the violator more when this person gave an internal rather than an external explanation, $F(1, 53) = 12.33, p < .002$. Attribution did not play a role when the violator lied, $F(1, 53) = 0.12, p < .74$.

A 2-way ANOVA on the question how many sessions participants wanted to exclude the violator from the group revealed a main effect for attribution, $F(1, 53) = 4.91, p < .05, \eta^2 = .09$, and an interaction effect, $F(1, 53) = 6.95, p < .05, \eta^2 = .12$ (see Table 3.3). The interaction showed that group members in the external attribution condition wanted to exclude the violator for more sessions when this person was dishonest relative to when this person was honest, $F(1, 53) = 4.81, p < .05$. No effect of honesty was found in the internal attribution condition, $F(1, 53) = 2.50, p = .12$.

Moreover, when the violator was honest, participants wanted to exclude this person for a higher number of sessions when he gave an

internal rather than an external reason, $F(1, 53) = 11.42, p < .002$. When the violator lied attribution played no role, $F(1, 53) = 0.09, p < .77$.

Financial punishment. A 2-way ANOVA on the punishment question revealed a significant interaction effect, $F(1, 53) = 3.72, p = .05, \eta^2 = .07$ (see Table 3.3). When the violator gave an external reason, group members punished more when he lied than when he was honest, $F(1, 53) = 3.87, p = .05$. No effect for honesty was found in the internal attribution condition, $F(1, 53) = 0.70, p < .41$.

Moreover, when the violator was honest group members punished more in the internal relative to the external attribution condition, $F(1, 53) = 4.35, p < .05$. However, when the explanation was a lie, the effect of attribution was not significant, $F(1, 53) = 0.39, p < .54$.

In order to check whether this effect on punishment was mediated by negative emotional reactions (as suggested by Darley & Pittman, 2003), a series of regression analyses were performed following Baron and Kenny (1986). First of all, a regression analysis of the independent variables on punishment showed a significant interaction, $\beta = .25, p = .05$, mirroring the ANOVA results. Second, a regression analysis on the mediator negative emotions showed a significant interaction, $\beta = .37, p = .005$, similar to the ANOVA results. Third, a regression analysis of the independent variables and the mediator on punishment showed a significant effect for the mediator, $\beta = .44, p = .001$, and revealed that the interaction effect was no longer significant, $\beta = .11, p < .42$. A Sobel-test (Sobel, 1982) showed that this reduction was significant, $z = 2.26, p = .02$.

All these findings show that the reactions of high trusters are more intense and severe when it is known that the external attribution information is dishonest relative to honest. In addition, the results also showed that attribution information affected people's emotional and retributive reactions only if the given information was honest. In addition, participant's willingness to punish could, at least partly, be explained by negative emotional reactions.

GENERAL DISCUSSION

Three experiments examined how group members react when one group member violates an important coordination and fairness rule in symmetric social dilemmas, i.e., the equality rule. We argued that under such circumstances, especially high trusters wish to know why a violator behaves like this in order to determine their reactions. In three experiments, we examined the roles of attribution information, trust, and honesty of the given information. We both assessed dispositional differences in trust and manipulated trust in others and found similar results as such increasing our confidence that trust plays a crucial role in explaining emotional and retributive actions toward violators. Also, our manipulation of trust is a newly developed approach that recently has been proven to be very effective (see Mulder et al., in press); something the present findings again confirm. In the following paragraphs, we will discuss the most important findings.

Overall, the present findings showed that people are very much concerned about the use of equality in symmetric step-level public good dilemmas. Earlier research has shown that decision makers in symmetric social dilemmas often use the equality rule themselves. However, the question remained how people react when others violate equality. The present results strongly suggest that group members consider the equality rule as something that should be applied by others. Consequently, both emotional and retributive reactions are then affected when another person violates the equality norm (a situation that has not been examined yet in social dilemmas). Moreover, the use of punishment was mediated by the expression of negative emotional reactions. The fact that emotional and retributive actions were so strongly elicited under circumstances of equality violation by someone else supports this perspective of looking at equality as a socially shared norm (cf. Messick, 1993). This perspective of equality as a social norm is also supported by the claim that retribution (which was one of the dependent variables) is a likely response when social norms are violated (see Schroeder et al., 2003).

At a more specific level, the first important finding was that, only for high trusters, group members' negative emotional reactions were

influenced by the type of attribution information (i.e. internal vs. external) that the violator presented. That is, negative emotional reactions were elicited less when an external (i.e. the violation was caused by an external situational factor) rather than an internal attribution (i.e. the violation was caused by the violator itself) was given. These findings support attribution theories suggesting that when something unexpected happens (i.e., a violation of an important coordination and fairness rule) people wish to know the cause behind this event and will base their emotional reactions upon attributions of responsibility (Bies & Tripp, 2002; Johnson & Rule, 1986; Rutte & Messick, 1995; Weiner, 1985). From the present results, it appears that such attribution information has important implications to determine the trustworthiness of those committing violations in social dilemmas (see e.g., Bottom et al., 2002; Kim et al., 2004), and, therefore, among those high in trust, attribution information will particularly affect people's reactions. High trusters expect others to be of goodwill and act morally (De Cremer et al., 2001), and as a result, for them it is important to see whether reasons exist that may reduce personal responsibility and confirm that it is justified to trust others (Greenberg, 1990). The present findings provide the first evidence, at least to our knowledge, of an interaction effect between trust and attribution on emotional reactions in social dilemmas.

To enhance the generalizability of our findings, we used a wide variety of negative emotions, all related to feelings of anger and disappointment. Feelings of anger and irritation are mainly elicited if expectations are violated, as is shown in prior research demonstrating that people are highly upset when equality is violated both in terms of economic and fairness considerations (Stouten et al., in press-a). Also, our measures of disappointment and embitterment have been demonstrated to be primarily related to person-related disappointment (Van Dijk & Zeelenberg, 2002), which explains well the finding that particularly high trusters reacted emotionally to the violator and his given explanation.

The second important finding is that the effect of attribution among those who used this type of information (i.e., high trusters) was moderated by the honesty of the attribution information. That is, our results showed that people were less likely to react negatively if external

attribution information was given. However, if this information was dishonest, then reactions became particularly intense and negative. In many interdependent situations, like, for example, in negotiations people behave strategically and do not always communicate valid information (Boles et al., 2000; Robinson et al., 2000), making it particularly important to look at the degree of honesty when explaining unexpected behaviors such as equality violation.

The degree of honesty about the given information was particularly important for those high in trust as they used the attribution information to evaluate whether trust was violated, and consequently, to base their emotional reactions on. As the present findings demonstrate, if high trusters realized that the given explanation by the violator was a lie, they exhibited stronger negative emotional reactions and greater willingness to engage in retributive reactions regardless of the attribution information given. With respect to the retributive actions, our finding that high trusters wanted to financially punish and exclude the violator from the group indicates that they felt misled in their trust and were clearly seeking revenge (see also, Kim et al., 2004; Tyler et al., 1997). Moreover, the fact that the use of punishment was mediated by emotional reactions indicates that these emotions can be instigators of retributive actions (see also Darley & Pittman, 2003). The present findings are the first - at least to our knowledge - to experimentally examine and identify circumstances under which group members are willing to engage in retributive actions in social dilemmas.

An important strength in the present chapter is the use of emotions and retributive actions as a dependent measure in social dilemmas. To date, hardly any social dilemma research has focused on the type of emotions and retributive actions that group members exhibit. Our findings show that particularly feelings of violated trust and justice serve as an instigator of these types of reactions in social dilemmas. Another strength is that our research is also the first to study the impact of lying and honesty in public good dilemmas. Previous research on other interdependent situations such as negotiations and bargaining included this important variable, but social dilemma research has devoted little attention to it. Adding this variable was indeed important as it identified

a situation that determines the effectiveness of attribution information on people's reactions.

To conclude, the present chapter contributes to our understanding of the equality rule in symmetric public good dilemmas by showing that equality matters in social dilemmas and that the consequences of a violation of equality cannot be restored so easily, except if an honest and external explanation can be given. However, this psychology of justification is only effective if trust is high within the group. Thus, violating equality can be seen as dangerous practice and emphasizes the hard-wired importance of justice in social-decision making.

Chapter 4

Coordination Rules and Being Rejected: When Equity Furnishes Rebellion

In daily life people often participate in groups. These groups have a variety of functions, such as providing members with a sense of belongingness and resources (Baron & Byrne, 2000). As a member of these groups, people can benefit from the public good, even without contributing themselves to the public good. However, these situations often contain a conflict between personal and collective interests. It is personally more advantageous to contribute no resources and still consume from the public good. However, if all decide to pursue one's personal interests, and thus decide not to contribute, than all will be worse off than when all decide to pursue the collective interest. This situation is referred to as a public good dilemma (Dawes, 1980).

In such social dilemmas, group members may differ in the interest they have in the public good. Some people can benefit more from the collective

This Chapter is based on Stouten, De Cremer, & Van Dijk (2005b). *When being disadvantaged grows into vengeance: The effects of asymmetry of interest and social exclusion in social dilemmas*. Manuscript submitted for publication.

good once it is established than others (Van Dijk & Wilke, 1995; Williams & Sommer, 1997). Since some people can benefit more from the public good than others, people usually focus their decision behavior on fairness norms, such as the proportionality rule (i.e. equity) when making contributions to the public good (Adams, 1965; Van Dijk & Wilke, 1995). This means that people tacitly decide to contribute in proportion to the interest that they receive from the public good. If people have a high interest in the public good, they generally contribute more than group members who have a low interest in the public good. Thus, people use group norms in deciding how resources and contributions should be distributed.

This observation that people easily adhere to group norms (i.e., fairness rules) and accept these rules may not be surprising because research on the fundamental need to belong suggests that people wish to coordinate their social relations with others in order to make them both efficient and enjoyable (Baumeister & Leary, 1995; Fiske, 2004). This can be achieved by following social norms like cooperation and fairness rules in social dilemmas (De Cremer & Leonardelli, 2003; Chapter 2, Stouten, De Cremer, & Van Dijk, in press-a). Thus, the fact that differences in interests in the public good are quite easily accepted and used to govern social interactions within the group can, at least partly, be explained by people's social belongingness concerns (Barash, 1977; Fiske, 2004).

Following this line of reasoning, we argue that people may react negatively and strive for retaliation as a result of differences in financial interest in the public good. This will be particularly so when they notice that belongingness needs are not met because they are not liked and thus feel alone in their group (i.e., social exclusion, see Leary, Tambor, Terdal, & Downs, 1995). Because, under circumstances of social exclusion people find themselves out of the normative boundary of the group, they may experience resistance to the group's fairness rules (Opatow, 1990). Across three experimental studies, we examined how people's negative emotional reactions toward differences in interest in the public good are determined by social exclusion. In addition, we explored how people's social value orientation will affect the potential influence of social exclusion.

DIFFERENCES IN INTEREST AND SOCIAL EXCLUSION

Social dilemma research has shown that group members who have different interests in the public good contribute proportionally to the public good (Van Dijk & Wilke, 1995). For example, Van Dijk and Wilke showed that group members who received 33% of the public good's total payoff (high interest) contributed twice as many endowments as those who received only 17% of the public good's total payoff (low interest). Participants in this situation adopted a fairness norm of equity to anchor their decision on. This suggests that people easily adjust their behavior to rules dictating how resources are allocated in groups. In this chapter, we argue that an important reason why people use the equity rule is because it is fair, and such fair behavior promotes positive, socially rewarding, and inclusive relationships in the group (e.g. Wenegrat, Abrams, Castillo-Yee, & Romine, 1996). Thus, we suggest that because people want to be included they base their decisions on fairness and cooperative norms that are created by the group's context (Opatow, 1990).

Prior decision-making research argued that people not only care about their economic resources in groups (see e.g., Marwell & Ames, 1979; Mitchell, Tetlock, Mellers, & Ordóñez, 1993), but that also social needs, such as being liked and being accepted by their social interaction partners influence decisions and behavior (Baumeister & Leary, 1995). In addition, such social needs have been shown to motivate people to follow social norms to maintain enjoyable relationships (Fiske, 2004; Terry & Hogg, 1996), and thereby affect the extent to which distribution rules are accepted and employed (Wenzel, 2004). But, how will people react to differences in interest in the public good when they notice that they are not liked or accepted by the other group members (social exclusion, Leary et al., 1995; Twenge, Baumeister, Tice, & Stucke, 2001)?

Research has shown that when people are not liked, or accepted, that is when they are socially excluded, people experience a wide range of emotions, cognitions, and actions, such as: feelings of anxiety, loss of self-esteem, negative emotional reactions (Baumeister & Tice, 1990; Bourgeois & Leary, 2001; Leary, 1990; Leary et al., 1995; Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997; Williams, Cheung, & Choi, 2000), loss of

meaning (Williams & Sommer, 1997), more aggression (Twenge et al., 2001), and self-defeating behavior (Twenge, Catanese, & Baumeister, 2002). Hence, social exclusion can be described as a loss of social bond because “one is deprived of the support ... and even the human contact reserved for members of the group; one literally becomes an outsider” (Kerr, 1999, p. 112). When one is rejected, it is more likely that one will devalue one’s relationship with others (Bourgeois & Leary, 2001; Leary et al., 1995). Furthermore, and importantly to the present research, because people devalue their relations, they will be less likely to adhere to and react negatively to group and fairness norms, by, for example, behaving in a self-interested way, being more aggressive, being less helpful, and being less cooperative in a prisoner’s dilemma game (Twenge et al., 2001; Twenge, Ciarocco, Cuervo, Bartels, & Baumeister, 2005).

Thus, we argue that when people’s social need of inclusiveness is not met, then differences in interest in the public good will be reacted more strongly to. More precisely, we argue that when people are socially excluded differences in interest will influence people’s negative emotional reactions. People may then become angry, irritated, and frustrated when they have a low relative to a high interest as they feel that they are in a disadvantaged position.

THE RESEARCH IN THE PRESENT CHAPTER

It is thus expected that when group members realize that they are socially excluded they will express more negative emotional reactions when having a low interest rather than having a high interest in the public good. Under these circumstances, strong negative reactions are expressed as an indication of felt injustice (see e.g. Lerner, Tiedens, & Gonzalez, 2005). When feeling socially included, differences in interest (and thus being economically disadvantaged) will not be taken upon so much as a disturbing event and socially normative behavior and reactions will be displayed (see also system justification theory, Jost & Banaji, 1994, particularly when one is included in the group).

There are different reasons why the present studies will, first of all, look at emotional reactions. First, the social exclusion literature has

shown that when people are socially excluded they display negative emotions (Bourgeois & Leary, 2001; Leary, Twenge, & Quinlivan, 2005). Second, research has shown that under specific circumstances, a violation of coordination rules, such as equality and equity increases negative emotional reactions (Adams, 1965; Stouten et al., in press-a). Social exclusion may be such a specific situation. Finally, in the social dilemma literature hardly any attention has been devoted to the role of emotional reactions. This is surprising, particularly, since recently small group research has developed a strong focus on understanding the role of emotions that members within teams and organizations experience (Kelly & Barsade, 2001).

Because of these reasons, we use negative emotional reactions as a dependent measure. If one is socially excluded, more attention will be devoted to the differences in interest. Moreover, the feeling that one is disadvantaged is thus expected to elicit, for example, feelings of anger in people when they have a low interest (Carlson, Marcus-Newhall, & Miller, 1990; Geller, Goodstein, Silver, & Sternberg, 1974), because these feelings reflect “concerns with ones worthiness for remaining a member” of the group (Leary, 1990, p. 224).

EXPERIMENT 4.1

Experiment 4.1 is a first test to see whether differences in interest in the public good influence people’s negative emotional reactions, particularly when they are socially excluded. Participants played a four person step-level public good dilemma game in which they learned that two group members received 33% of the group’s bonus, and two other members received 17% of the group’s bonus. After they received this information, participants were socially included or excluded. The social exclusion manipulation of the present studies is one of the first to present a procedure in which participants are socially excluded without excluding them structurally from the group, which means that they were still able to be part of the group and perform the group task (e.g., Kerr, 1999, for example, manipulated only a threat to social exclusion and whether this would increase cooperation). Our studies used a modified procedure of

Leary et al. (1995) in which participants were asked to fill out a bogus personality questionnaire that was circulated to all participants. Leary et al. then manipulated social exclusion by asking participants to rank them according to whom they most wanted to work with later in the study. In the present experiments participants found out that even when they were socially excluded by the other group members, they were still able to perform the group task (see also Nezlek et al., 1997; Twenge et al., 2005). Hence, by using this procedure, participants chose the group members they liked most or least on the basis of bogus personality questionnaires.

Method

Participants and design

Participants were 67 undergraduate students, and they were paid 7 euro for their participation. They were randomly assigned to a 2 (interest) x 2 (exclusion) factorial design.

Procedure

Upon entering the laboratory, participants were seated in separate cubicles containing a chair, a table, and a computer. It was said that all instructions would be presented on the computer screen. Participants were further told that they were part of a four-person group, which would play several games, and that they (supposedly) would be able to interact with one another via their computer. In reality, the computers were not connected with each other.

Then, the public good dilemma was introduced. It was first told to participants that each group member received 75 points as a personal endowment, which they, if they wished to, could invest in a public good. If the group managed to reach a given threshold of 120 points, then the group would receive a bonus of 300 points, which would be divided among the four group members.

Manipulation of differences in interest. Thereafter, they were informed that half of the group members would receive 33% of the bonus, whereas the other half would receive 17% (modeled after Van Dijk & Wilke, 1995). Then, some questions were asked which queued for their understanding of the game. All participants answered these questions correctly.

Manipulation of social exclusion. After the public good dilemma was introduced the degree of social exclusion was manipulated. Participants were asked to fill out a questionnaire, which would be used to get to know the other group members. The questionnaire consisted of items, assessing issues such as communicative abilities, creative ideas, and punctuality. All these items were scored on a 5-point scale ranging from weak to excellent. There was also some space reserved where participants could summarize their overall weak points or strengths.

After participants had filled out the questionnaire, they contacted the experimenter via an intercom system, and thereafter, the experimenter entered the cubicle and collected the forms. Somewhat later, the experimenter reentered the cubicle with ostensibly the copies of the other group members' questionnaires. Then, participants were asked to look through these questionnaires in order to get acquainted with the other group members. When they were ready, they had to rank the other group members according to how much they liked each of them (see Leary et al., 1995; Nezlek et al., 1997, for a similar procedure).

Once they finished ranking the other group members, they contacted the experimenter again who then collected all the forms. After a few minutes, the experimenter reentered and in accordance with Leary et al. (1995) participants received information indicating whether the other group members "liked, accepted, or wanted to interact with them" (p. 526). In the *social exclusion* conditions the experimenter said, "You were ranked last by all three group members. So, you were liked the least by the others. Hence, the other group members find you the least sociable". In the *social inclusion* conditions the experimenter said, "You were ranked first by the other three group members. So, you were the most socially liked by the others. Hence, the other group members find you the most sociable". The information that the experimenter provided was also written on a note and

handed over to the participants together with a chart representing the participants to hold the first or the last position in the group.

Dependent measures. Then, the dependent measures were solicited. All items were responded to on a 7-point scale ranging from 1 (= not at all) to 7 (= very much so). First, to check for the manipulation of interest, participants were asked to what extent they thought the percentage of the bonus they received was either small (= 1) or large (= 7). Then, to check for the manipulation of exclusion, participants were asked “to what extent do you feel accepted by the other group members”. Further, in order to measure negative emotions, two anger-related emotions (see Shaver, Schwartz, Kirson, & O’ Connor, 1987) were assessed: anger and frustration. Research on social exclusion shows that not only anger but also frustration is an important emotional reaction towards rejection (Berkowitz, 1989; Williams, 2001). The items anger and frustration were combined in an average scale of negative emotions (Cronbach’s $\alpha = .83$). Finally, participants were debriefed, thanked, and paid.

Results

Manipulation checks

A 2 (interest) x 2 (exclusion) ANOVA on the interest manipulation check revealed only a main effect for interest, $F(1, 63) = 176.89, p < .001, \eta^2 = .74$, showing that participants in the high interest condition considered the percentage of the bonus as higher ($M = 5.62, SD = 1.02$) than those in the low interest condition ($M = 2.42, SD = 0.94$). There was no effect for social exclusion, $F(1, 63) = 1.34, p < .26, \eta^2 = .02$, nor for the interaction, $F(1, 63) = 0.58, p < .46, \eta^2 = .01$.

A 2 (interest) x 2 (exclusion) ANOVA on the social exclusion item showed only a main effect for exclusion, $F(1, 63) = 259.12, p < .001$. Participants in the social exclusion condition felt less accepted ($M = 2.16, SD = 1.11$) than in the social inclusion condition ($M = 6.06, SD = 0.84$).

There was no effect for interest, $F(1, 63) = 0.14$, $p < .71$, $\eta^2 = .00$, nor for the interaction, $F(1, 63) = 0.16$, $p < .70$, $\eta^2 = .00$.

Negative emotions

A 2 (interest) x 2 (exclusion) ANOVA on the emotion scale revealed a significant main effect for exclusion, $F(1, 63) = 76.73$, $p < .001$, $\eta^2 = .55$, and a significant interaction, $F(1, 63) = 8.24$, $p < .01$, $\eta^2 = .12$ (see Table 4.1). Further analyses showed that in the social exclusion condition, participants who had a low interest expressed more negative emotions than participants who had a high interest in the public good, $F(1, 63) = 11.12$, $p < .001$, whereas this was not the case in the social inclusion condition, $F(1, 63) = 0.44$, $p < .51$.

Table 4.1. Means for negative emotions as a function of asymmetry of interest and social exclusion.

	Low Interest	High Interest
Social Exclusion	3.88 (1.36)	2.78 (1.15)
Social Inclusion	1.24 (0.36)	1.44 (0.51)

Note. Higher ratings indicate higher levels of negative emotions. Standard deviations are within parentheses.

Discussion

As expected, asymmetry of interest influenced participants' emotional reactions only when they were socially excluded by the other group members. That is, socially excluded group members having a low interest in the public good felt more frustrated and angry than those who had

received a high interest in the public good. However, when people were not socially excluded differences in interest did not influence emotional reactions.

EXPERIMENT 4.2

Although Experiment 4.1 shows that when people feel socially excluded having a low or a high interest in the public good matters for their emotional reactions, it is important to understand whether some individuals are more sensitive in this situation than others. Because people reacted to these differences in interest, it can be expected that the strong focus on financial differences (when being socially excluded) may be particularly pronounced among people who have a primary interest in their own outcomes and self-interest (Leach, Snyder, & Iyer, 2001). Hence, people's social value orientation may be expected to moderate people's reactions to differences in interest when being socially excluded.

Social value orientations are defined as the weights people assign to outcomes for the self and others in allocation tasks (Messick & McClintock, 1968; Van Lange, Otten, De Bruin, & Joireman, 1997). Broadly speaking, people can be classified as prosocial individuals (i.e., primarily aimed at maximizing joint outcomes), competitors (i.e., aimed at maximizing the difference between outcomes for self and other) or individualists (i.e., aimed at maximizing own outcome, regardless of other's outcome). Studies on social value orientation usually combine individualists and competitors into one group that is referred to as proselfs (e.g. De Cremer & Van Lange, 2001; Van Lange & Liebrand, 1991).

Prior research has shown that proselfs relative to prosocials care more about their own self-interest, as witnessed by their tendency to cooperate less in groups (e.g., Kramer, McClintock, & Messick, 1986). Thus, in Experiment 4.2, we predict that this effect of asymmetry in interest will influence negative emotional reactions when being socially excluded, but particularly so if people have a proself, relative to a prosocial, orientation. In addition, because prosocials do not focus so strongly on *own* outcomes (but also consider other's outcomes), they are expected to react less

negatively than proselves when having a low interest in the public good (i.e., 17%). In Experiment 4.2, we also introduced two other improvements. First, we measured a wider range of negative emotions. That is, following the social exclusion literature we argue that when people have a low interest and are socially excluded they feel more vulnerable, and thus feel the need to defend themselves against these negative implications. Hence, people may not only react in anger, but also react with fear (Baumeister & Tice, 1990) and hostility (Bourgeois & Leary, 2001; Spector, 1997),

Second, in addition to focusing on people's emotional reactions, we also assessed the actions that people may undertake. A first important behavioral reaction may be the extent to which people would want to leave the group. The experience of negative emotions will devalue their group membership, and therefore people may wish to leave the group, because they do not want to work with the group members anymore (Leary et al., 1995; Pepitone & Wilpizeski, 1960; Spector, 1997). Further, in the literature it has also been suggested that people's emotional reactions such as anger, fear, and hostility, can be instigators of self-interested actions to take revenge, that is, retributive actions (Bourgeois & Leary, 2001; Bond & Venus, 1991; Goldberg, Lerner, & Tetlock, 1999; Smith, 2002), to stake the further existence of the group, or take revenge on the other group members (e.g. Ayduk, Downey, Testa, & Yen, 1999). An important aspect of retributive actions is the extent to which group members wish to take revenge, because it reflects the need to get even, giving people their just desert (Bies & Tripp, 1996; Carlsmith, Darley, & Robinson, 2002; Darley & Pittman, 2003), or may act as a face-saving tactic (McCullough, Bellah, Kilpatrick, & Johnson, 2001). It is expected that when being socially excluded especially proselves will be more likely to take retributive actions when they have a low rather than a high interest in the public good. In addition, we expect that negative emotions will mediate the expected interaction between social value orientation and differences in interest on retributive actions.

Method

Participants and design

Eighty-seven undergraduate students participated in return for course credits. A 2 (social value orientation) x 2 (interest) between participants-design was used. Participants were assigned randomly to the interest conditions.

Procedure

Participants were seated in separate cubicles with a table, a chair, and a computer. As in Experiment 4.1, instructions were presented via the computer screen.

Assessment of social value orientation. Before the public good dilemma game was introduced, participants were told that they would first participate in another (unrelated) study. They were asked to complete the nine-item Decomposed Games measure assessing participants' social value orientation. This task was introduced as a separate study assessing the validity of the scales. The Decomposed Games measure has excellent psychometric qualities. It is internally consistent (e.g. Parks, 1994), reliable over substantial time periods (Eisenberger, Kuhlman, & Cotterell, 1992) and is not related to measures of social desirability or indices of mood (e.g. Platow, 1992). The measure consists of nine items, each containing three alternatives of outcome distributions between the participant and an anonymous other. An example of an item looks as follows, choice A: 500, 500, choice B: 560, 300, and choice C: 490, 90. Alternative A represents the prosocial orientation because an equal distribution is preferred in dividing points to the self and to an anonymous other. Alternative B is the individualistic orientation because the outcomes for the self are maximized regardless of the outcomes for the other (560 for the self vs. 300 for the other). Finally, option C is the competitor orientation because the relative difference between the self and the other is maximized (Alternative C: $490 - 90 = 400$ vs. A: $500 - 500 = 0$, and B: $560 - 300 = 260$).

Participants were classified if they made at least six out of nine choices that were consistent with one of the three social value orientations. In this study, 31 persons could be classified as prosocials (35.6%), 28 as individualists (32.2%) and 15 as competitors (17.2%). Thirteen persons (14.9%) could not be classified according to the criteria. In concurrence with earlier research (De Cremer & Van Lange, 2001; Van Lange & Liebrand, 1991) individualists and competitors were combined to form one group of proselves ($n = 43$).

Introduction of the public good dilemma. Then, the second study was introduced. Participants were told that they were part of a four-person group. As in Experiment 4.1, participants learned that they possessed a personal endowment of 75 points, which they, if they wished to, could invest in the public good. If the group succeeded in providing the threshold of 120 points, a bonus of 300 points would be awarded to the group.

Manipulation of differences in interest. Thereafter, the same manipulation of asymmetry of interest as in Experiment 4.1 was introduced. Participants learned that they together with another group member received 33% or 17% of the bonus, whereas the other two group members received 17% or 33% of the bonus. Then, participants were queued for their understanding of the task. All participants answered these questions correctly.

Manipulation of social exclusion. Then, all participants were placed in the social exclusion condition, which was manipulated as in Experiment 4.1. Upon this manipulation, participants were asked “to what extent do you feel accepted by the other group members” on a 7-point scale ranging from 1 (= not at all) to 7 (= very much so) to check for the social exclusion manipulation. Results showed that participants felt low acceptance by the other group members and a t-test demonstrated that this was significantly different from the midpoint of the 7-point scale ($M = 2.58$, $SD = 1.18$), $t(86) = -11.29$, $p < .001$.

Dependent measures. Then, the dependent measures were solicited. All questions were answered on a 7-point scale ranging from 1 (= not at all) to 7 (= very much so). First, to check for the manipulation of interest, participants were asked to what extent they thought the percentage of the bonus they received was either small (= 1) or large (= 7). Further, the negative emotions anger, irritation (Shaver et al., 1987), fear, and hostility were measured to form one negative emotion scale (Cronbach's $\alpha = .88$).

Further, it was asked to what extent participants would want to leave the group even if that would mean that they would lose their participation in the bonus. Finally, two retribution questions were asked (1) "to what extent do you want to take revenge on the other group members?" and (2) "to what extent do you want to avenge the other group members' behavior?" These questions were combined to form one retribution scale ($r = .85, p < .001$). Finally, participants were debriefed and thanked.

Results

Manipulation checks

A 2 (social value orientation) x 2 (interest) ANOVA on the interest manipulation check revealed a main effect for interest, $F(1, 70) = 85.42, p < .001, \eta^2 = .55$, showing that high interest participants considered the percentage of the bonus they would receive larger ($M = 5.28, SD = 1.23$) than those who would receive a low interest ($M = 2.87, SD = 1.09$). However, also an unexpected main effect for social value orientation was found, $F(1, 70) = 4.79, p < .05, \eta^2 = .06$, in which, independent of having a low or a high interest, prosocials, relative to proselves, considered the percentage of the bonus that they would receive to be larger (prosocials: $M = 4.29, SD = 1.81$; proselves: $M = 3.86, SD = 1.57$). A possible post-hoc explanation for this unexpected finding could be that because proselves have a primary interest in maximizing own outcomes, they are (regardless of any situation) greedier and therefore, they evaluated the bonus as relatively small. Also, the effect size of the main effect of interest was considerably larger than the one of the effect of social value orientation.

Thus, we are confident that our manipulation was successful. Further, there was no significant interaction, $F(1, 70) = 0.82, p < .37, \eta^2 = .01$.

Emotional reactions

A 2 (social value orientation) x 2 (interest) ANOVA only revealed an interaction effect, $F(1, 70) = 5.79, p < .05, \eta^2 = .08$ (Table 4.2). This effect showed that proselves experienced stronger negative reactions in the low interest condition than in the high interest condition, $F(1, 70) = 3.99, p = .05$, whereas among prosocials no difference was found between the low and high interest conditions, $F(1, 70) = 2.14, p < .15$. In addition, in the low interest condition, proselves showed more negative emotions than prosocials, $F(1, 70) = 7.95, p < .01$, whereas there was no difference between proselves and prosocials in the high interest condition, $F(1, 70) = 0.41, p < .53$. We will return to this in Experiment 4.3.

Table 4.2. Means as a function of asymmetry of interest and social value orientation.

Dependent Measures	Prosocials		Proselfs	
	Low Interest	High Interest	Low Interest	High Interest
Negative Emotional Reactions	2.12 (0.95)	2.77 (1.39)	3.50 (1.37)	2.50 (1.18)
Leaving the Group	1.59 (1.18)	2.07 (1.21)	2.71 (1.65)	1.73 (0.99)
Retribution	1.41 (0.51)	1.96 (1.38)	3.17 (1.76)	2.30 (1.37)

Note. Higher ratings indicate higher levels of the dependent variables. Standard deviations are within parentheses.

Leaving the group

A 2 (social value orientation) x 2 (interest) ANOVA on the leaving the group score revealed a significant interaction, $F(1, 70) = 5.86, p = .05, \eta^2 = .08$ (Table 4.2). This interaction showed that proselves wanted to leave the group more in the low interest condition than in the high interest condition, $F(1, 70) = 6.33, p < .05$. Prosocials, however, were not influenced by the asymmetry of interest manipulation, $F(1, 70) = 1.08, p < .31$. Additionally, planned comparisons also showed that within the low interest condition, prosocials wanted to leave the group less than proselves, $F(1, 70) = 7.21, p < .01$, whereas no difference was found in the high interest condition, $F(1, 70) = 0.61, p < .44$.

To check whether negative emotions mediated the interaction between social value orientation and asymmetry of interest, a series of regression analyses were performed (see Baron & Kenny, 1986). To test for mediation, several steps need to be taken. First, the effects of the independent variables (social value orientation, interest, social value orientation x interest) on the dependent variable (leaving the group) have to be tested. Second, the effects of the independent variables on the proposed mediator (negative emotions) have to be tested. Third, the mediating variable negative emotions has to significantly influence the dependent variable leaving the group. Fourth, the effect of the independent variable has to be reduced when the mediating variable is added.

First, a regression analysis of the independent variables social value orientation, interest, and the interaction term on the dependent variable leaving the group showed a significant interaction, $\beta = .28, p < .05$, mirroring the ANOVA results. Next, a regression analysis of the independent variables on the mediator negative emotions showed a significant effect for the interaction, $\beta = .28, p < .05$, which is similar to the ANOVA results. Then, a regression analysis of the independent variables and the mediator on leaving the group showed a significant effect for the mediator negative emotions, $\beta = .58, p < .001$, and showed that the interaction between social value orientation and interest was no longer significant, $\beta = .13, p < .22$. A Sobel test (Sobel, 1982) demonstrated that this reduction was significant, $z = 2.21, p = .03$, suggesting that the

interactive effect of social value orientation and differences in interest on leaving the group can, at least partly, be explained by negative emotional reactions.

Retribution

A 2 (social value orientation) x 2 (interest) ANOVA on the average retribution score revealed an interaction between social value orientation and interest, $F(1, 70) = 4.87, p < .05$ (Table 4.2). This interaction demonstrated that proselves wanted to take more revenge in the low interest condition than in the high interest condition, $F(1, 70) = 4.38, p < .05$. However, among prosocials no differences were found between the low and high interest condition, $F(1, 70) = 1.26, p < .27$. In addition, planned comparisons showed that in the low interest condition, prosocials were less eager to take revenge than proselves, $F(1, 70) = 15.54, p < .001$, whereas no difference was found in the high interest condition, $F(1, 70) = 0.50, p < .49$.

To test whether this interaction effect was mediated by negative emotions, a series of regression analyses were performed. First, a regression analysis of the independent variables on retribution showed a significant interaction effect, $\beta = .24, p < .05$, mirroring the ANOVA results. As demonstrated earlier, the effect of the independent variables on the mediator negative emotions was significant. Further, a regression analysis of the independent variables and the mediator on retribution showed a significant effect for the mediator, $\beta = .63, p < .001$, and revealed that the interaction effect between social value orientation and differences in interest was no longer significant, $\beta = .07, p < .42$. A Sobel-test showed that this reduction was significant, $z = 2.28, p = .02$, suggesting that the interactive effect of social value orientation and differences in interest on retribution can, at least partly, be explained by negative emotional reactions.

Discussion

As expected, the findings of Experiment 4.2 showed that people who have a strong concern for own outcomes were influenced by the asymmetry of interest manipulation when being socially excluded. Proselfs displayed more negative emotional reactions and retributive actions when they had a low relative to a high interest in public good, whereas this was not the case for prosocials. Also, as predicted, prosocials reacted less strongly than proselfs when they had a low relative to a high interest in the public good. Finally, negative emotional reactions were found to underlie the interaction effect between asymmetry of interest and social value orientation on retributive reactions.

EXPERIMENT 4.3

In Experiment 4.2 it was shown that in the low interest condition prosocials were significantly less negative in expressing emotional reactions than proselfs. Following recent research, these findings can be considered as somewhat surprising because it has been shown that prosocials, once they are focused on allocations (see De Cremer & Van Lange, 2001; Stouten et al., in press-a; Van Lange, 1999), are at least equally (and sometimes even more) sensitive to outcome differences as proselfs. Prosocials have a strong preference for equal outcomes, which is reflected in their tendency to reciprocate their partner's behavior (De Cremer & Van Lange, 2001) by being more willing to reciprocate positive (Perugini & Gallucci, 2001; Van Lange, 1999) and negative behavior (Van Lange, 1999).

Therefore, following this line of research it could be expected that prosocials, just as proselfs, should become angrier when receiving a smaller share relative to a larger share from the public good and when being socially excluded. However, the findings of Experiment 4.2 did not reveal such an effect. Because of this finding, we reason that a moderator may exist that determines whether prosocials shift from being less self-interested to reacting in a reciprocal manner where they will display negative reactions when receiving less than others. One such moderator

might be people's tendency to react negatively to negative events in interactions, also referred to as negative reciprocal beliefs (Eisenberger, Lynch, Aselage, & Rohdieck, 2004).

Research by Eisenberger and colleagues conceptualized negative reciprocal behavior as an individual difference variable, which basically describes the eye for eye, tooth for tooth principle. More specifically, it is related to feelings of anger when one is maltreated and the belief that people are generally malevolent (Eisenberger et al., 2004). Thus, if prosocials would react upon being socially excluded when they have a low interest in the public good, this may be particularly so when they hold negative reciprocal beliefs.

The aim of Experiment 4.3 is to examine whether prosocials, when being socially excluded and placed in the low interest condition, will express more negative emotional reactions when they hold negative reciprocal beliefs, relative to when they do not possess these beliefs. Hence, prosocials who hold negative reciprocal beliefs should react equally strong as proselves. Proselfs, however, are not expected to react differently when they have negative reciprocal beliefs or not, because they are already focused on their own outcomes and they react against constraints of these outcomes. Hence, having negative reciprocal beliefs or not, will not have an additional influence under these circumstances for proselves. Thus, in Experiment 4.3, all participants were placed in the low asymmetry and social exclusion conditions.

Method

Participants

Participants were 129 undergraduate students who participated in return for course credits.

Procedure

Participants were seated in separate cubicles containing a table, a chair, and a computer. The remainder of the study was quite similar to Experiment 4.2.

Assessment of the social value orientation measure. First, before starting the public good dilemma game participants were asked to participate in another (unrelated) study assessing the validity of the social value orientation and negative reciprocity scales. Participants completed the nine-item Decomposed Games measure to assess participants' social value orientation as described in Experiment 4.2. In this study, 41 persons could be classified as prosocials (31.8%), 52 as individualists (40.3%) and 22 as competitors (17.0%). Fourteen persons (10.9%) could not be classified according to the criteria. Individualists and competitors were combined to form one group of proselves ($n = 74$).

Assessment of negative reciprocity. Participants completed the Negative Reciprocity Scale (Eisenberger et al., 2004) by responding to 14 items on a 7-point Likert-scale (1 = strongly disagree, 7 = strongly agree). This scale comprises such items as "If someone says something nasty to you, you should say something nasty back" (Cronbach's $\alpha = .90$). A correlation between the social value orientation and negative reciprocity scales revealed that both measures were low and not significantly correlated ($r = .12$, $p < .21$), which suggests that they were unrelated to each other.

Introduction of the public good dilemma. After filling out the supposed first study, participants were explained the public good dilemma. This procedure was the same as in Experiment 4.2, except that all participants were now told to be in the low interest condition (17%) together with another group member, whereas it was said that two other group members were in the high interest condition. Participants were asked whether the percentage that they received from the bonus was either small (= 1) or large (= 7). An analysis showed that participants found their interest to be rather small ($M = 2.51$, $SD = 1.19$). A t -test showed that responses on this item deviated significantly from the midpoint of the 7-point scale, $t(128) = -14.23$, $p < .001$. After explaining the game, some questions were asked which queued for their understanding of the game. All participants answered these questions correctly.

As in Experiment 4.2, participants were assigned to the social exclusion condition. The same manipulation of social exclusion was used

as in Experiment 4.2. Participants' responses on the same question as in Experiment 4.2 showed that they felt low acceptance by the other group members ($M = 2.53$, $SD = 1.21$). Further, a t -test showed that responses to the item deviated significantly from the midpoint of the 7-point scale, $t(128) = -13.89$, $p < .001$, indicating that we were successful in establishing social exclusion.

Dependent measures. Then, the dependent measures were solicited. The negative emotions angry, disappointed, and bewildered were measured on a 7-point scale ranging from 1 (= not at all) to 7 (= very much so) to form one negative emotion scale (Cronbach's $\alpha = .81$). Further, participants were debriefed, thanked, and paid.

RESULTS

To test our hypotheses, a hierarchical regression analysis was conducted in which negative emotions were predicted by the main effect terms (social value orientation and negative reciprocity) at Step 1 and the interaction term at Step 2 (see Table 4.3). Following Aiken and West (1991), social value orientation and negative reciprocity were centered and the interaction term was based on these centered scores. Table 4.3 shows the

Table 4.3. Results of hierarchical regression analysis of negative emotions on social value orientation and negative reciprocity.

	β	R^2	R^2_{adj}	R^2_{change}	df
Dependent Variable	Negative Emotions				
Step 1		.07	.05	.07	2, 112
Social Value Orientation	.20*				
Negative Reciprocity	.15				
Step 2		.11	.08	.04	1, 111
Social Value Orientation x Negative Reciprocity	-.39*				

Note. Total $F(3, 114) = 4.42$, $p < .01$; * $p < .05$.

regression results: Social value orientation was positively related to negative emotions. Furthermore, the interaction between social value orientation and negative reciprocity was significant (see Figure 4.1). Simple slopes analysis was conducted to further analyze this interaction (Aiken & West, 1991). The interaction revealed that for prosocials negative reciprocity was significantly related to negative emotions, $\beta = .47, p < .005$, but not for proselves, $\beta = .03, p < .82$. Moreover, when negative reciprocity was low (one SD below the mean), social value orientation was significantly related to negative emotions, $\beta = .39, p < .005$, but not when negative reciprocity was high (one SD above the mean), $\beta = -.04, p < .79$.

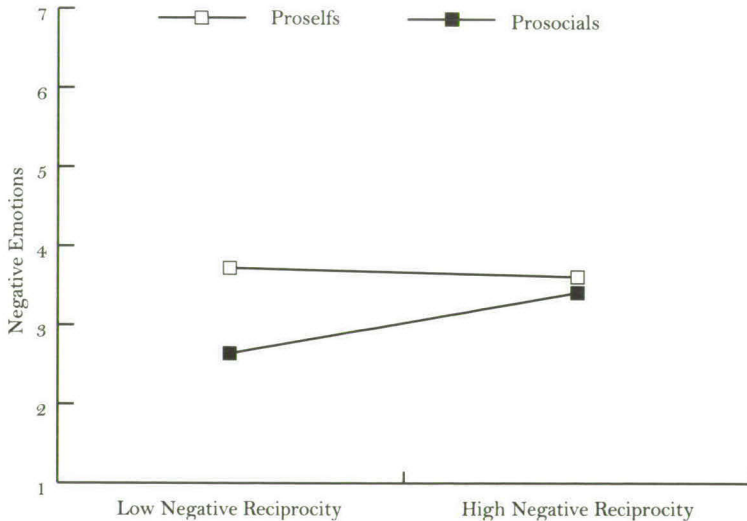


Figure 4.1. The Relationship between Social Value Orientation and Negative Emotions as a Function of Negative Reciprocity.

Discussion

As expected, the findings of Experiment 4.3 showed that prosocials reacted more negatively when they had high, relative to low, reciprocal beliefs, whereas reciprocal beliefs did not matter for proselves. Moreover,

prosocials with high negative reciprocal beliefs responded equally negative as proselves. Prosocials who had low negative reciprocal beliefs reacted less negatively than proselves, which parallels the results of Experiment 4.2.

GENERAL DISCUSSION

In three experiments it was shown that an asymmetry of interest in the public good may induce negative reactions as a function of situational (i.e., social exclusion) and personality variables (i.e., social value orientation and negative reciprocity). In a first experiment it was shown that people who had a low interest in the public good reacted more negatively than those who had a high interest in the public good, but only if they were socially excluded. Further, Experiment 4.2 demonstrated that, in the social exclusion conditions, having a low rather than a high interest influenced both emotional and retributive reactions, but only for proselves. In contrast, prosocials were not influenced in their reactions by the asymmetry of interest manipulation. Moreover, in this study, prosocials even reacted less negatively than proselves in the low interest condition. A third experiment (4.3) showed that in the low interest condition, prosocials who were socially excluded and who had negative reciprocal beliefs reacted equally negative as proselves under these circumstances. In the following paragraphs the most important findings will be discussed.

Groups have the potential to satisfy both financial and social needs (Barash, 1977; Baron & Byrne, 2000), and as such, it is necessary to examine in closer detail the interplay between these two concerns; something prior social dilemma research has not done yet. More precisely, we examined the relationship between asymmetry of interest and social exclusion in public good dilemmas. In groups there is often an asymmetry of interest in the public good so that some may receive more than others from the public good's payoff. Prior social dilemma research has shown that people usually seem to accept these differences and consequently coordinate their decision behavior by, for example, applying a proportionality rule when contributing to the public good (Van Dijk & Wilke, 1995; 2000). In the present chapter, we argued that such social norms like fairness rules are easily adopted when the social needs in the

group are fulfilled. More precisely when people feel accepted by the group, they are motivated to maintain a positive atmosphere and to preserve the collective interest (see e.g., Austin, 1980; Wenzel, 2004), and therefore, differences in interest are not expected to lead to negative reactions. However, such negative reactions may emerge if belongingness needs are not met, because then people may feel that the appropriateness and acceptance of rules (that are applied when people are socially accepted) do not matter anymore (Opatow, 1990).

The findings of Experiment 4.1 indeed demonstrated that differences in interest only influenced people's reactions when they felt socially excluded; participants only receiving a low interest of the public good's total payoff then reacted more negatively than those who received a high interest. This interesting finding was further elaborated upon in Experiment 4.2, in which it was explored whether certain individuals are more sensitive than others to differences in interest when being socially excluded. The findings showed that when being socially excluded only proselves displayed stronger negative emotional and retributive reactions when they received a low relative to a high interest in the public good. For prosocials, no effect of asymmetry of interest on these variables was found. These results fit well with recent research showing that mainly proselves' emotions are influenced by situations that may affect their personal outcomes (see Stouten et al., in press-a). Thus, proselves' orientation to preserve self-interest by, for example, reacting to differences in interest is most likely to emerge when social needs like belongingness are not met.

Another finding in Experiment 4.2 was the fact that proselves reacted more negatively than prosocials in the low interest condition. In the light of prior research, this finding can be seen as somewhat surprising. That is, it seems to challenge earlier findings that prosocials attach much importance to equal outcomes and therefore engage in reciprocal behavior by reacting negatively/positively if outcomes are negatively/positively (De Cremer & Van Lange, 2001; Van Lange, 1999). To explore this finding further Experiment 4.3 was conducted and showed that prosocials reacted equally negative to the low interest condition as proselves did, but only if they possessed negative reciprocal beliefs. If prosocials were not high on

negative reciprocal beliefs, proselves reacted significantly more negative than prosocials (which parallels the findings of Experiment 4.2).

These latter findings have important implications for the recently developed integrative model of social value orientation (Van Lange, 1999). This model shows that prosocials favor equality in outcomes and if this need for equality is not fulfilled they engage in reciprocal behavior, hence, reacting negatively when receiving less than others (De Cremer & Van Lange, 2001). Following from Experiment 4.3, it appears to be the case that acting in a negative reciprocal manner only seems to account for prosocials possessing high negative reciprocal beliefs. An interesting implication of this line of reasoning is also that it integrates two different (and isolated) lines of research on individual differences, that is, social value orientation and negative reciprocity (Eisenberger et al., 2004; Van Lange, 1999).

Another important aspect of the present chapter is that it focused on two dependent measures that have not been used much in social dilemma research, that is, emotional and retributive reactions. First of all, social dilemma research has largely neglected the role of emotions. This is somewhat surprising because emotions appear to play a prevalent and substantial role in social-decision making (see e.g., Lerner, Small, & Loewenstein, 2004; Loewenstein & Lerner, 2002). Emotions are often a function of what happens in groups in terms of justice and treatment (De Cremer, 2004; Stouten et al., in press-a). The present chapter suggests that when people experience social exclusion and when they can consume less from a public good, values of belongingness and justice are violated. Hence, when these values are violated, people may experience negative and anger-based emotional reactions (see e.g., Averill, 1983; Lerner et al., 2005; Rozin, Lowery, Imada, & Haidt, 1999), something that the present findings support.

Moreover, the findings on emotional reactions gain in importance when realizing that previous research on social exclusion did not always find that people react emotionally when they are socially excluded (e.g., Twenge et al., 2001, 2002; Baumeister, Twenge, & Nuss, 2002), although these effects may emerge when group members are under the impression that social interactions will continue in the near future (Baumeister, 2003).

However, even if such effects on emotions occasionally emerged (e.g, Williams et al., 2000), it was also found that emotions did not mediate behavioral reactions. In fact, Baumeister (2005) noted that "when differences in mood or emotion have been found, mediation analyses have suggested that emotional reactions are essentially unrelated to behavioral effects" (p. 590). Experiment 4.2, however, was able to show that people reacted emotionally to differences in interest as a function of social exclusion and that these emotional reactions mediated retributive actions. These findings not only contribute to social exclusion research, but also to the limited number of research on the role of emotions in social dilemmas that has hardly examined whether emotional experiences drive the decisions and actions that people take (see Fehr & Fischbacher, 2004).

With respect to the actions that people take in social dilemmas, we focused on retributive behaviors. First of all, it was found that if people were socially excluded, differences in interest could lead them (especially proselves) to leave the group. Such actions are dangerous for small groups because it results in the problem that the group has to obtain the public good with fewer group members (see Van Vugt, Jepson, Hart, & De Cremer, 2004). Moreover, the fact that a leaving group member has consciously chosen to leave, even though this would result in having no access to the benefits of the public good, indicates that these individuals are clearly negatively orientated toward the group. Our findings also showed that under the above-specified circumstances, participants (particularly proselves) were motivated to take revenge, and this was again explained by the experience of negative emotions.

The research in the present chapter is - at least to our knowledge - the first to gain insights in how financial and social concerns determine people's reactions when they are both financially disadvantaged and socially rejected. These findings obviously have real-life implications, because in most societies, those who are working class, underclass, or members of minority groups often find themselves in situations in which they have a low interest in most public affairs and, in addition, they often are socially rejected. Hence, these conditions may give rise to negative feelings and may eventually lead to retributive behavior, in which the disadvantaged may rebel.

Chapter 5

Summary and Discussion

Situations in which personal and collective interests are at odds create possibilities to pursue self-interest and free-ride on the group's expenses. However, when all pursue self-interest everyone may be worse off. Classic economic theories have assumed that people in such social dilemma situations solely focus on their own self-interest (see e.g., Carpenter, 2003; Colman, 1982; Luce & Raiffa, 1957). On the other hand, psychological research has shown that not only self-interest can motivate people in these mixed-motive situations, but also justice and fairness motives (see e.g., Kahneman et al., 1986; Marwell & Ames, 1979; Mitchell, et al., 1993; Van Lange, 1999). The present dissertation demonstrated that in social dilemmas fairness and justice do matter as they affected people's emotions and decisions. More particular, it was shown that in social dilemma situations coordination rules, such as equality can also be seen as fairness rules and do not only represent decision rules that are easy to use. When a group member violates the equality rule, people get upset, and react negatively. In addition, people want to know why such a violation happened (Bies, 1987), and information regarding the cause of the

Part of this Chapter is based on Stouten, De Cremer, & Van Dijk (2005c). Equality in social dilemmas. *Social Justice Research*.

violation shapes emotional reactions. Furthermore, these emotional reactions evoke retributive reactions, such as the urge to avenge on the perpetrator. Finally, it was demonstrated that if one does not feel accepted by the group to which the justice rule applies, emotional and retributive reactions to differences in interest in the public good may be triggered.

This chapter outlines the discussion of the different experimental chapters and introduces an integrative framework to describe the interplay between distributive justice, emotions, and retributive justice in social dilemmas. Finally, the implications for justice and coordination rules in social dilemmas will be discussed with respect to emotions, retributive actions, situational factors, and individual differences.

SUMMARY

Coordination Rules in Social Dilemmas: Equality as Fairness

In the introductory chapter, it was noted that when communication is not possible people may base their decisions in social dilemmas on coordination rules (Schelling, 1980). In interdependent situations some of the most important coordination rules are equality and the proportionality rule (i.e. equity). Equality is defined as a decision rule dictating that in a given symmetric public good dilemma people make equal contributions to the public good. The proportionality rule holds that people contribute proportionally to what they deserve. These rules have been found to be focal points (Van Dijk & Wilke, 1995; 2000; Schelling, 1980), on which people can focus their decisions on an easy-to-use basis (Allison et al., 1992; Allison & Messick, 1990). The present dissertation argues that these rules may not only be regarded as decision heuristics, but that they also resemble fairness rules (see e.g., Deutsch, 1985). That is, decision makers not only try to do what is best for the individual interests, but also try to be fair (Bazerman et al., 1995; Deutsch, 1985; Messick & Sentis, 1983; Pillutla & Chen, 1990; Wit, Wilke, & Oppewal, 1992).

Chapter 2 provides some first evidence that coordination rules, and more specifically the equality rule, carries a fairness association. Because the use of the equality rule is so pervasive, it can be expected that people in general expect others to use this rule as well. But, how will people react when a fellow group member violates such an important coordination rule? It is important to note that it is hard to disentangle whether people use this coordination rule out of efficiency or fairness concerns by solely looking at their decision behavior. Focusing on people's decision behavior would not give much insight into this question, because people usually remain strongly committed to use this rule, due to a variety of reasons (see e.g., Diekmann, 1997). Therefore, the empirical chapters in the present dissertation mainly focused on how people would react emotionally to such violations, which would indicate that people are upset because it is unfair and touches on the very basis of what people think is the moral thing to do.

In order to gain insights in the motives for the use of coordination rules a paradigm was developed in which one group member violated the equality rule by contributing less than equality would prescribe. The fact that one group member violated the equality rule would ultimately lead to the failure of the group in providing the public good (i.e., since most people stick to the use of equality, failure by one group member to do so would result in collective failure). It can be expected that people will respond in an emotional negative way when equality is violated. But, what would happen if people find out that financial interests are satisfied. If financial interests would eventually be satisfied (i.e., the public good is still distributed), seen from an efficiency perspective, there would be no need to emotionally react upon such a violation. Although coordination between group members may have failed, under such circumstances outcomes are similar to when they would have coordinated successfully. On the other hand, if it turns out that group members still react negatively in such a situation, than it can be argued that a violation of equality not only represents a violation of a decision rule, but also a violation of fairness.

Because it is known that some people may rely more on efficiency and others may depend more on fairness when allocating outcomes, people's

social value orientation is an important element on how people perceive such a violation and how they would react when equality is violated. In two studies, it was indeed shown that the emotions of people who assigned more weight on their own outcomes (proselfs) were influenced more by whether or not the public good was provided, and hence, the expected financial outcome, was obtained (even though equality was violated). On the other hand, the emotions of people who put more importance on other's outcomes and equality (prosocials) were not affected by whether or not the need for financial outcomes was satisfied. Hence, the violation of the coordination rule of equality is seen as unfair, and this salient fact dismayed people.

These results show that a violation of such an important coordination rule as equality results in negative emotional reactions. For proselfs, emotional reactions are a function of whether financial interests are satisfied, whereas for people with prosocial motives financial concerns do not influence their emotional reactions toward injustice. It can then be suggested that for some (i.e., prosocials) the equality rule not only represents a simple decision heuristic, but also a representation of true fairness; for proselfs, this coordination rule primarily seems to represent an efficiency principle.

Coordination Rules and Making Inquiries: Justifying Equality Violations

In Chapter 3, it is argued that a violation of an important coordination rule such as equality also raises questions among group members about why such a violation occurred. What is the violator's motivation to free-ride on such an important fairness rule? In Chapter 3, I argued that the information (internal vs. external attribution) given by the violator to explain his or her violation should influence people's emotional and retributive reactions. When fairness is violated people may consider alternatives for this violation: 'Maybe it was not intended?' People may want to know whether the relation between group members is still optimal and whether trust is still possible. This concern is very likely to influence their perception of the relationship with the violator and hence,

their subsequent reactions. Because people wish to know the reason of this violation to assess whether trusting relationships are still possible, it was expected that information regarding the violator's responsibility should be especially important for people who are high in general trust, because they expect moral behavior and benign intent from others.

The results of two experiments indeed demonstrated that especially for people high in trust the explanation that the violator gave regarding the violation of the equality rule influenced their emotional reactions. High trusters were more accepting toward the given explanation and they reacted less negatively when information was given that reduced the violator's responsibility (i.e., the violation was due to external circumstances) relative to information that confirmed the violator's responsibility. In addition, a third experiment showed that when high trusters realized that the violator was dishonest about the given external explanation, relative to honest, they reacted emotionally more negative and were drawn towards the use of retributive actions such as revenge and punishment. In addition, this pattern of results also holds that for those high in trust, attributional explanations given by the violator are simply discounted when the violator is seen as dishonest.

The results of three experimental studies showed that, in line with the results of Chapter 2, decision makers in social dilemmas express negative emotional reactions when the coordination rule of equality is violated; moreover, as a result of these emotions they also engage in retributive actions. These negative reactions were a function of the type of explanation that the violator provided and whether group members (those receiving the explanation) were high or low in general trust. If people trust others, their negative reactions could be weakened if the violator was not seen as personally responsible. However, if thereafter, it becomes clear that the violator is dishonest in delivering information then the situation becomes crystal-clear and justifications are futile. Chapter 3 showed that it is clear that the issue of trust is prominent when making sense of equality violations.

Interestingly, in the *Grounding for the Metaphysics of Morals*, Immanuel Kant (1785/1983) noted that when trust is violated, not only an essential basis for cooperation is violated, but more importantly respect for the

other is lost. This issue of losing respect for the other seems to be reflected in people's decisions to engage in retributive measures in order to avenge the harm done. One may conclude that the violation of equality generally results in a dispute among group members. Informational resources may eventually relieve this conflict, but only if the information is perceived as honest.

Coordination Rules and Being Rejected: When Equity Furnishes Rebellion

The fact that fairness violations, such as in the case of equality, create a form of relational conflict is also important if one wishes to look at the question to what extent people accept existing coordination rules. The equality rule, for example, is supported in situations in which there is a communal and united relationship between group members, communicating a message of equality on all levels. Equality thus represents a form of solidarity among group members. Although the allocation of resources often can be made on equal terms, in most cases people differ on certain aspects, such as status, interest, effort, or past performances. In the case of differences in interest people may adhere to a proportionality rule implying that high interest members contribute more than low interest members (Van Dijk & Wilke, 1995).

The fact that people approve coordination rules such a proportionality rule may be related to the fact that they feel accepted by the group in which this coordination rule is installed by the community, and thus, applies to all of them acting within the normative boundary of the community (Deutsch, 1975, Opatow, 1990). However, when people do not feel included by the group, one is out of this normative boundary and hence, coordination rules may not be so easily accepted anymore. In fact, they may even instigate resistance. In Chapter 4, three experimental studies showed that when people feel socially excluded, having either a low or a high interest in the public good's payoff (asymmetry of interest which appeals for applying equity) influenced people's emotional and retributive reactions. More precisely, in a first experiment (Experiment 4.1) it was demonstrated that group members who were socially rejected

and who received a low interest in the public good expressed more negative emotional reactions relative to those who received a high interest. Moreover, a second experiment (Experiment 4.2) showed that this difference in interest was mainly pronounced among people who have a strong interest in own outcomes (i.e., proselves). Proselfs' expression of both emotional and retributive reactions was a function of whether they had a low rather than a high interest in the public goods' total payoff. In contrast, prosocials were not led by the differences in interest when being socially excluded. Actually, prosocials reacted even less negatively than proselves in the low interest conditions, although prosocials are known to have a concern for reciprocating behavior and a concern for equality (Van Lange, 1999). However, a third experiment (Experiment 4.3) showed that prosocials who hold negative reciprocal beliefs expressed stronger emotional reactions in contrast to those prosocials who do not possess these beliefs. As a matter of fact, prosocials reacted equally strong as proselves in the low interest conditions when being socially excluded.

Chapter 4, thus, illustrated that the acceptance of coordination rules, such as equity, is dependent on people's need to belong. When people feel that they are socially excluded, the existence of the equity rule gives rise to negative feelings and behaviors, particularly when one is financially disadvantaged (i.e., having a low interest in the public good). In other words, the fact that people are socially excluded shapes their resistance to implement coordination rules. In Chapter 4 it was highlighted that people's social needs are important aspects of approving coordination rules. Without these needs, financial (and thus self-interests) concerns dominate.

COORDINATION AS AN INSTANCE OF FAIRNESS IN SOCIAL DILEMMAS

This dissertation demonstrated that fairness is an important motivation in social dilemmas. More particularly, fairness in social dilemmas can be expressed by means of coordination rules such as equality and equity. The different empirical chapters showed that when coordination rules in social dilemmas are violated, people are distressed and emotional reactions are

expressed. These negative emotional reactions show that people are personally concerned with a violation of coordination rules and they even motivate people to engage in further actions. The actions that emerge from these feelings were shown to be retributive actions, such as revenge, punishment, excluding the violator, or leaving the group. Thus, violations of coordination rules create an atmosphere of injustice resulting in negative reactions. This moral or justice conflict seems to show the strong commitment that group members display toward coordination rules. However, if this commitment and acceptance fades away, belongingness needs are violated. This type of social exclusion leads people to rebel against the approval of coordination rules.

Thus, one can conclude that coordination rules do represent instances of fairness, which group members consider to be important for the group's climate, and in turn, enable positive intragroup relationships that are generally free of retributive conflicts. Further, this also holds that because coordination rules are instances of true fairness, they create a sense of community and belongingness (Cropanzano & Ambrose, 2001; De Cremer, 2002), which takes care of keeping emotional reactions well balanced. However, this picture is a function of a social reality painted by the interaction between situation and personality. It is noteworthy that in all of these studies the prominent influence and acceptance of coordination rules is dictated by a dynamic interplay between situational and personality variables. This line of reasoning is depicted in Figure 5.1.

The representation of Figure 5.1 is a first contribution to experimentally test the role of coordination rules as fairness exemplars in social dilemma situations. Social dilemma researchers have suggested that coordination rules, such as equality and equity represent a fundamental issue of fairness and as such, should influence the relationship within the group on moral dimensions such as emotions and retributive behavior (Eek et al., 2001; Van Dijk & Wilke, 2000), although experimental evidence for this line of reasoning was nonexistent. The notion of coordination rules as fairness rules was first stated by Van Dijk & Wilke (1995, p. 24) who wrote that people "anchor their actual choice behavior on this own fair choice behavior". This dissertation is in line with this

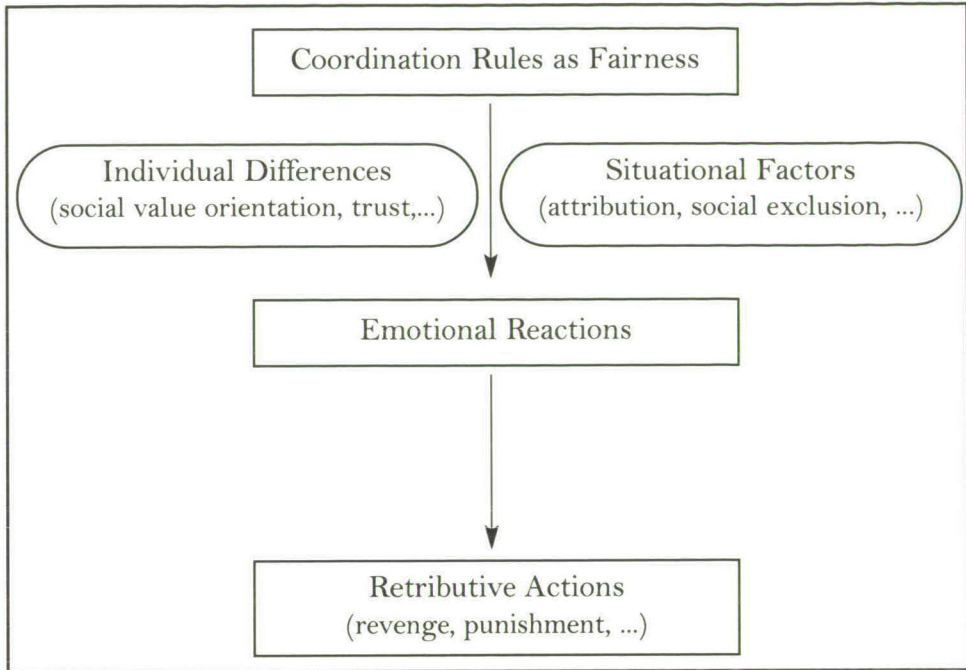


Figure 5.1. An Integrative Framework.

statement as it shows (at least in part) that coordination rules represent what is truly fair and that people react upon violations of these rules.

This conclusion is also interesting in the light of notions from economics, law, and philosophy. The fact that people apply these rules and react against violations is, for example, contrary to fundamental economic propositions that people are primarily motivated to follow self-interest. In addition to only self-interest, fairness rules are also important motivations. This idea fits with early philosophical accounts, such as Rousseau's (1762/1987) description of the social contract, in which people tacitly agree to follow certain rules in order to advance the collective. Kant (1785/1983) put the social contract idea in a more detailed structure in the *categorical imperative*, which argues that people should behave in such a way as they want others to act towards them. In addition, Kant mentioned in his *supreme principle of the doctrine of virtue* that the decisions that follow from the categorical imperative should be universal laws, which all

people have as an end, rather than as a means, and which will help in order to build a community of free and equal members.

This line of reasoning was even further elaborated by John Rawls who described in his *Theory of Justice* (1971/1999) the type of rules that people should adhere to in order to create a just community for all. Rawls argued that people will unanimously choose certain rules, which a society should embrace. He describes an initial situation (the original position) in which the people who have to decide on society's principles are behind a *veil of ignorance*. Behind this veil, these people have no knowledge about their past experiences, social position, or their personal wishes. In addition, they are mutually disinterested, because they have no knowledge of the position they will be in when they leave the veil of ignorance. Rawls argued that these individuals would agree that all people should be treated as equals (equal liberties), and that such primary goods, as income, wealth and opportunities should be distributed equally. However, differences in outcomes may exist and some may benefit more than others, as long as those who are less privileged can also profit from these differences (Rawls referred to this as the difference principle). Both these principles should, according to Rawls, match people's most deeply held convictions about what is just.

The principles that Rawls proposed are similar to the coordination rules of equality and equity. When all are equal, equality will be the dominant rule, whereas if there are differences between group members (such as differences in interest), equity will be applied, and this means that those who are better off contribute more to the collective. Hence, it can be thought of that these coordination rules are universal laws of fairness on which people base their decisions. The philosophic traditions of Rousseau, Kant, and Rawls refer to the idea that people want to be fair (see e.g., Kahneman & Knetsch, 1992; Mitchell et al., 1993), and this motivation may indeed give rise to the use of coordination rules¹. The fact that people

¹Although coordination rules indeed may be expressions of fairness they are also the most efficient tradeoff between personal and collective interests because if everyone uses these rules, everyone will be better off without contributing too much. Hence, to be efficient and fair people should "choose only a strategy, which, if you could will it to

base their decisions on these coordination rules is an expression of justice as an *end* rather than as a means because it is adopted by consent and there is no need for coercion (see e.g., Conlon, Porter, & McLean Parks, 2004). Hence, these coordination rules, such as equality and equity, refer to some moral good and represent what is fair. Deviations of what is fair instigate emotional reactions, as people will get angry when unfairness is committed. The impact of these emotional reactions has been largely neglected in social dilemma research. This is somewhat surprising since the discussion of the topic of emotions can be traced back to Aristotle, and the adaptive function of emotion was already introduced by Darwin (1872/1998).

EMOTIONS AND RETRIBUTIVE JUSTICE IN SOCIAL DILEMMAS: CONTRIBUTIONS AND IMPLICATIONS

Emotion research has convincingly demonstrated that emotions significantly influence people's cognitions and behavior (see e.g., Clore, 1992; Forgas, 1995; Lerner & Keltner, 2000). However, emotions have rarely been studied in mixed-motive situations such as social dilemmas (Fehr & Fischbacher, 2004). And if they were studied, research mainly focused on mood (see e.g., Hertel, 1999).

Although financial interests in classical economic theories are considered to be people's primary motivation, more recently it has become clear that people's emotional experiences (i.e., which are often considered not rational, Loewenstein & Lerner, 2001) can have a prevalent impact on how decision makers perceive the relationship in the group and act accordingly to it, also as a function of distributive principles (Cropanzano & Ambrose, 2001). The present dissertation indeed showed that in social dilemma situations people's emotional experiences are evoked as a result of fairness violations related to coordination rules (that is, both the

the chosen by all of the players, would yield a better outcome from your point of view than any other" (Coleman, 1982, p. 263). However, people may also reason that 'it might happen to be my advantage too, but whether it is or not makes no difference to my moral obligations.'

violation of fairness rules and the conditions that create the acceptance of coordination rules). More particularly, the negative emotional reactions that group members express are detrimental for the group's relationships. The fact that people feel angry or frustrated gives rise to conflict situations within the group. For example, people may see the violator as unsympathetic, as deserving no respect (Stouten, De Cremer, & Van Dijk, 2001), and consider it necessary to punish him (Chapter 3, Stouten, De Cremer, & Van Dijk, 2005a).

The important role of emotions in mixed-motive situations can indeed not be underestimated. At first, the emotions that individual decision makers experience may represent the seed that silently grows out to become a fully-grown briar, which eventually can sting those that are the direct focus of these emotions. The present dissertation empirically demonstrated that these emotional reactions were instigators of further retributive justice, to give the perpetrators their just desert. Finally, the emotions that group members experienced for a long time may finally find fertile soil to grow and then strike back. These retributive actions are severely damaging the group's existence, by avenging, exorcizing, punishing the perpetrator, or even by leaving the group (which would make it more difficult for the group as a whole to obtain the public good; Van Vugt et al., 2004). Interestingly, these actions driven by revenge may also be harmful to the persons who adopt them, as "holding on to anger is like grasping a hot coal with the intent of throwing it at someone else; you are the one getting burned" (Buddha Sakyamuni). These actions may thus even go against one's self-interest despite the fact that they were undertaken as a reaction to unfairness.

The experiments presented in this dissertation are among the first that experimentally studied retributive justice and its exemplars (revenge, excluding group members, and so forth) in social dilemmas. Although researchers noted that retributions are important in social dilemmas (see e.g., Schroeder et al., 2003), experimental evidence for these notions has been rare. In addition, the fact that these retributive measures were mediated by the experience of negative emotional reactions is important as it shows that (following theoretical accounts) emotional reactions indeed motivated people to take further actions. In the social dilemma

literature hardly any evidence to date existed demonstrating that emotions instigate retributive actions.

The research presented in this dissertation is also of interest for appraisal theories in emotion research (see Scherer, 1999), because the studies described above experimentally manipulated, for example, appraisal outcomes (such as the cause of the action, attribution processes) in contrast to the common usage of post-hoc verbal inferences of appraisal processes, in which past events are evaluated according to certain appraisal dimensions. Second, previous research has often neglected the social context in which the emotions were experienced. In the studies that were discussed an ongoing social interaction was presented in which participants were part of a group. Hence, the emotional reactions that participants experienced were elicited by the interaction between the group members. This approach made it possible to study these processes in a setting that was realistic to participants and to truly study emotional experiences. Finally, the present research was able to show that individual differences are important antecedents of people's emotional reactions. People may react emotionally different depending on these individual differences. For example, some people may react negatively because of a violation of fairness, whereas others' reactions are tempered when financial interests are satisfied. Hence, people's goals are important determinants of how they react to different situations, and hence, the appraisals that evoke these situations.

INDIVIDUAL AND SITUATIONAL MODERATORS: A DYNAMIC INTERPLAY

The "coordination as fairness" perspective, as adopted in the present dissertation, demonstrated that the expression of emotional and retributive actions is dependent on both individual and situational factors. The situational factors that are of importance in contributing to these reactions were financial satisfaction (outcome, Chapter 2), attribution and honesty (Chapter 3), and social exclusion (Chapter 4). These factors moderate people's expression of emotional or retributive reactions. This shows that a violation of fairness can easily induce or enhance reactions

depending on the situational circumstances. It is important to stress that the factors affecting social conflict in the group, such as attribution, honesty, and social exclusion are influential aspects even in situations where self-interest, and hence, personal outcomes, are at stake.

In addition, the influence of these situational factors is dependent on the differences that exist between people (see e.g., Edney, 1980; Mitchell et al., 1993). These individual differences, such as social value orientation, trust and negative reciprocity, are important for how people are influenced by the situation, therefore focusing people on certain sensitivities. More particularly, these individual differences represent the extent to which people focus on, for example, morality or fairness issues (see also, Leventhal et al., 1980). This is consistent with Plato's notion that fairness not only involves conforming to certain rules, but that social justice is part of people's personal definition, which, according to Plato, is derived from personal morality. For example, the interpersonal disposition social value orientation distinguishes whether people primarily focus on their own outcomes or focus also on other's outcomes and equality. In addition, another important individual difference variable is people's trust in others. Trustful people expect moral behavior and benign intent from others, which illustrates their focus and sensitivity to fairness issues. Thus, especially these dispositions were important in situations where fairness is violated.

In social dilemma situations, this interaction between individual differences and the situational circumstances is especially relevant because individual differences can guide people's emotions and behavior according to the focus they have on their outcomes (social value orientation), or the expectations they have regarding other's choices (trust, negative reciprocity). These dispositions indeed shaped people's reactions in the group context. Thus, the interaction between individual differences and the situation is important to describe people's behavior and the way people react in this situation (see e.g., Selart & Eek, 1999; Van Lange, De Cremer, Van Dijk, & Van Vugt, 2005).

FUTURE PROSPECTS

Future research may further elaborate on the importance of coordination rules as fairness rules. The present research focused on allocating money or tokens for money. However, one may also allocate resources such as commodities, status, and information, and these types of goods not always elicit the same reactions as a function of the coordination rule that is applied or violated. For example, people may react differently when goods, such as office chairs, are distributed in contrast to the distribution of important supervisor roles.

In addition, it would be promising to see how financial and social concerns are balanced even further: for example, if one is the team leader, financial concerns may be more important than social needs, and hence more attention will be given to these financial interests. In contrast, subordinates may well be concerned more with the social needs and less so with the financial needs in the group situation and hence, would be more sensitive to react to violations of, for example, being accepted or not. Finally, a violation of one of the coordination rules may well be perceived differently depending on the position one holds in the group and the position of the violator. Subordinates may, for example, be less upset if the leader violated the focal rule, because the leader role comes with an implicit justification to earn more resources (cf. De Cremer, 2003; Stouten, De Cremer, & Van Dijk, in press-b).

To see how people react to fairness considerations it is also of significance to nurture the approach of combining both individual differences and situational factors in order to better understand the interaction processes that guide people's emotional and behavioral psychology. For example, more research is needed on the emergence and the influence of emotions in social dilemmas. First of all, although the present dissertation aimed to map the hedonic direction of people's emotional experiences when fairness is violated, research may also focus on manipulating specific appraisals (i.e., the different event-based evaluations that direct people to specific emotional experiences, see Scherer, 1999) in a social dilemma situation to distinguish between specific emotions. In doing this, an important question would then be which

specific emotions are more likely to elicit retributive behavior; are people inclined to only give just deserts, or are they willing to take measures to restore the injustice? For example, the emotion anger may be expected to lead to more retributive than retaliatory actions because it is focused more on disapproving immoral behavior (e.g., Fitness, 2000; Shaver, 1985). In distinguishing between the types of retributive actions, it is also promising to focus more on the different exemplars of retributive actions that people in these social dilemma situations are willing to take. For example, it is probable that group members will more likely take actions such as gossiping, or verbally offending others than actually take measures such, as sabotage, stealing, or even physical aggressive behavior (Bies, Tripp, & Kramer, 1997). In a similar way, to what extent plays the fear of expressing these emotions a role? Certain circumstances may give people more comfort in expressing their anger or frustration, whereas other situations may enhance suppressing emotions more. Hence, although emotions may not always come to the surface, they may nevertheless motivate people (Lawler & Thye, 1999; Sherman, 1999). Studying the expression of these emotions may give more insights in these motivational processes.

Further, individual differences have an important role in the aforementioned processes. Thus, which individual differences are specifically important for specific appraisals and how does personality affect the use of retributive actions in social dilemmas? For example, trustful people were found to be more influenced by the attribution of the given information and expressed more retributive actions that were instigated by anger-related emotions (Chaper 3, Stouten et al., 2005a).

Finally, research might also focus on how individual differences can account for how likely people will express their emotional experiences. For example, people who hold negative reciprocal beliefs may be more eager to express their negative emotions. These questions, among others, may give social psychologists a more comprehensive view on the conditions in which coordination rules give rise to social conflict, the experience of emotions, and how and when they grow into retributive actions.

CONCLUDING REMARKS

The present dissertation addressed the role of coordination rules as fairness rules in social dilemma situations. Because of the conflict between collective and individual interests in social dilemmas, and the dominant role of *the myth of self-interest* both in research and in daily life (Miller & Ratner, 1996), the role of fairness and justice in social decision-making has not been explored in very much in detail. The experimental results reported in the previous chapters showed that coordination rules, that people use to anchor their decisions on, constitute fairness rules. When such rules are violated, people (especially prosocials) react negatively, even when financial interests are satisfied. Moreover, under circumstances of violation, people want to know how the relationship within the group is and if it is still possible to trust one another. Hence, questions about the attribution and honesty of the violator were shown to influence people's emotional reactions, especially for people who are high in general trust. In addition, these emotional reactions even led group members to take retributive measures that go against self-interest. As such, the emergence of unfairness, by means of violations of the coordination rule of equality, leads to both emotional and retributive actions as an expression of intragroup conflict, and governs the notion that coordination rules represent fairness rules.

Finally, it was demonstrated that when intragroup conflict is present, that is when people are socially rejected, opposition towards coordination rules, such as equity, are expressed, because they find themselves out of the social boundary in which these rules apply. Thus, although decision makers in general accept the equity rule, when they are socially rejected, differences in interest (which give rise to the use of equity) become more problematic. Therefore, although these fairness rules are accepted and evoke emotional and retributive reactions when violated, their existence is closely related to one's feeling being accepted by the group. When people perceive that they are rejected, these coordination rules may lead to resistance. In addition, people feel that "it's fair that people who receive better treatment also pay more, but it is also fair that all people are treated equally" (Eek et al., 2001, p. 664).

These findings altogether can easily be translated to real-life settings. For example, organizations may want to pay closer attention to the consequences emerging from violations of coordination rules or whether these rules are truly accepted or not. Group members participating less to the team project may evoke anger and frustration among the other group members, and in a worst-case scenario, this may lead to vengeful measures taken upon this group member. In a similar fashion, group members who feel rejected by the other team players may not so easily accept the group norms, such as the coordination rule that is applied to allocate resources. This will then lead to the experience of negative reactions and people might want to take the necessary actions when the opportunity arises. In order to avoid group conflict, organizations, team managers, and policy makers should acknowledge the impact of fairness and coordination rules on the processes within the group and its harmful consequences.

It is important to recognize that coordination rules carry a moral message that constitutes what people think is fair in addition to the definition of these rules as decision heuristics. In other words, there is a general need to emphasize the social function that is included in the concept of coordination rules instead of its heuristic role in resource allocations. For organizations and even society as a whole this is important because coordination rules are “both task and social systems that involve simultaneous pressures for economic performance and the maintenance of social cohesion” (Kabanoff, 1991, p. 421). Hence, not only is it important to maximize productivity, but it is also of importance to increase or maintain social cohesion. By keeping this in mind, a proper understanding of coordination rules and what they constitute can help to avoid a negative group climate, social conflict, and subsequent detrimental behavior.

Samenvatting

(Dutch Summary)

Als u dit eindeloze gewoel van de mensen vanaf de maan zou bekijken – zoals destijds Menippus – dan zou u denken dat u een zwerm vliegen of muggen zag onder elkaar twisten, oorlog voeren, hinderlagen leggen, roven, spelen, hun lusten botvieren, geboren worden, vallen en sterven. Je kunt nauwelijks geloven dat zo'n piepklein wezentje dat maar zo kort te leven heeft zoveel commotie en lawaai veroorzaakt. Want het is dikwijls maar een onbetekenende oorlog of epidemie die duizenden in het verderf en de vernieling storten.

(Erasmus, 1511/2000, p. 90)

Erasmus beschrijft de zelfzuchtige mens, die streeft naar het bereiken van persoonlijke voldoening en hiervoor geen twist of oorlog schuwt. Voorbeelden van het streven naar eigenbelang en de gevolgen hiervan voor het collectieve belang zijn legio aanwezig in het dagelijkse leven. Hierbij valt te denken aan milieuverontreiniging, de aantasting van de biodiversiteit in de oceanen of het voorzien in de sociale zekerheid; andere voorbeelden zijn conflicten op de werkvloer zoals bijvoorbeeld persoon X die het nalaat zijn takenpakket uit te voeren en erop rekent dat anderen hiervoor zullen compenseren of elk lid van het werkteam verricht

evenveel werkzaamheden, maar persoon Y krijgt hiervoor meer verdiensten.

Deze voorbeelden tonen aan dat het individuele belang vaak in conflict kan zijn met het collectieve belang. Zo kan het bijvoorbeeld voor elk individueel groepslid voordeliger zijn om bijvoorbeeld minder bij te dragen aan een teamproject. Maar als meerdere groepsleden hun individuele belangen nastreven raakt het voortbestaan van het collectief in het gedrang. Een dergelijke situatie wordt omschreven als een sociaal dilemma. Een voorbeeld van een sociaal dilemma situatie is het bestaan van organisaties voor ontwikkelingssamenwerking: op persoonlijk vlak is het voor individuen voordeliger geen geld te geven aan deze organisaties. Wanneer echter vele personen een soortgelijke beslissing maken kan het voortbestaan van deze organisaties niet meer gegarandeerd worden aangezien een minimum aan middelen nodig is om de ondersteuning van de organisatie te bekostigen. Dit voorbeeld stelt een bepaald soort van sociaal dilemma voor, namelijk een publieke goed dilemma dat inhoudt dat een minimum aan individuele bijdragen noodzakelijk is om het *publieke goed* (bijvoorbeeld het voortbestaan van de organisatie en de service die het verzorgt) te garanderen. Wanneer er niet voldoende middelen worden bijgedragen, zal het publieke goed niet gerealiseerd kunnen worden. Dit type sociaal dilemma werd gebruikt in de experimentele studies beschreven in deze dissertatie. De deelnemers aan deze studies werden verteld dat ze een sociaal dilemmaspel gingen spelen met nog drie andere personen. Dit werd alleen zo voorgesteld. In alle studies speelden de deelnemers namelijk enkel met een voorgeprogrammeerde computer.

Onderzoek naar hoe mensen beslissingen maken in sociaal dilemma situaties werd aanvankelijk gestuurd vanuit klassieke economische theorieën en voornamelijk vanuit speltheorie, dat als basisassumptie hanteert dat mensen enkel gedreven worden door hun eigenbelang en door persoonlijke voldoening (Colman, 1982; 2003). Dit stemt echter niet geheel overeen met hoe mensen zich *werkelijk* lijken te gedragen in sociale dilemma's.

Er werd namelijk aangetoond dat wanneer onderlinge communicatie niet mogelijk is mensen in deze publieke goed dilemma's hun beslissing coördineren of afstemmen op bepaalde focusregels of coördinatieregels

(Allison & Messick, 1990; Schelling, 1980; Van Dijk & Wilke, 1995; 2000). De filosoof Hume (1739/1992, Deel II, Sectie iii) stelde het coördineren volgens focusregels als volgt voor: een Fransman, Spanjaard en een Duitser staan voor de beslissing om de op een tafel gepresenteerde wijnflessen bourgogne, porto, en rijnwijn onder elkaar te verdelen. Er zijn 27 verschillende manieren om deze flessen onder de drie personen te verdelen, maar Hume stelde voor dat de oplossing ligt in de regel om de flessen te verdelen volgens elke persoon zijn nationaliteit. Dus wat Hume wilde aantonen was dat mensen bepaalde focusregels of coördinatieregels hanteren waarop ze hun beslissing kunnen grondvesten.

Twee van de belangrijkste coördinatieregels in sociale dilemma's zijn de gelijkheidsregel en de proportionaliteitsregel (Deutsch, 1985). De proportionaliteitsregel houdt in dat de uitkomsten die men krijgt vanuit het publieke goed in verhouding staan tot de inkomsten die men heeft bijgedragen. De gelijkheidsregel stelt dat deze uitkomsten gelijk verdeeld worden. Wanneer uitkomsten gelijk verdeeld worden onder alle groepsleden zijn mensen geneigd om ook een gelijk bedrag bij te dragen aan het publieke goed. Echter als de uitkomsten ongelijk worden verdeeld onder de groepsleden, wordt er bijgedragen in verhouding tot de uitkomsten die men krijgt (Van Dijk & Wilke, 1995). Dus als groepsleden meer kunnen verdienen van het publieke goed dan anderen dragen zij ook meer bij aan het publieke goed.

Het feit dat mensen deze coördinatieregels hanteren kan erop wijzen dat deze niet enkel uit eigenbelang worden gebruikt, maar ook uit eerlijkheden- en rechtvaardigheidsoverwegingen (bijv. Cropanzano & Ambrose, 2001; De Cremer, 2002; Van Dijk & Wilke, 1996). Reeds eerder werd namelijk vastgesteld dat mensen eerlijkheid en rechtvaardigheid wel degelijk belangrijk vinden (bijv. Marwell & Ames, 1979; Mitchell, Tetlock, Mellers, & Ordóñez, 1993). Bovendien werden deze coördinatieregels in de literatuur vaak bestempeld als eerlijkhedenregels (Bazerman, White, & Loewenstein, 1995; Biel, Eek, Gaerling, 1999; Lutz, 2001; Pillutla & Murnighan, 2003) maar totnogtoe werd hier geen experimenteel bewijs voor geleverd. Onderzoek naar primaten gaf bijvoorbeeld ook indicaties dat coördinatieregels gerelateerd kunnen zijn aan eerlijkheid. Wanneer primaten een groepsgenoot een stuk fruit zien aangeboden krijgen in ruil

voor een symbool, en zij daarna een minder gegeerd stuk fruit krijgen aangeboden in ruil voor hetzelfde symbool reageren ze woedend en weigeren het aangeboden fruit (Brosnan & De Waal, 2003). Ondanks dat deze apen voedsel krijgen aangeboden, door enkel een symbool in ruil aan te bieden, weigeren ze dit omdat de ander een betere uitkomst verkreeg. Dus in strijd met hun eigenbelang weigeren ze het voedsel omdat ze op gelijke voet behandeld willen worden.

Eerder onderzoek naar de gelijkheidsregel toonde aan dat mensen deze regel gebruiken omdat ze gemakkelijk toe te passen is en ze goed te rechtvaardigen is naar anderen toe (bijv. Samuelson & Allison, 1994). Aangezien mensen zelf deze regel gebruiken, kan echter ook gedacht worden dat de gelijkheidsregel sociaal gedeeld is en dat mensen verwachten dat anderen deze regel eveneens zullen gebruiken. Als mensen de gelijkheidsregel bestempelen als een vorm van rechtvaardigheid zal een schending van deze regels mensen raken en emoties opwekken aangezien onrechtvaardige handelingen emoties beroeren, zoals het aanwakkeren van woede (bijv. Mikula, Scherer, & Athenstaedt, 1998).

Om te onderzoeken of coördinatieregels als een vorm van eerlijkheid gezien worden werd in het tweede hoofdstuk (Stouten, De Cremer, & Van Dijk, in press-a) een paradigma ontwikkeld waarbij een schending van de gelijkheidsregel, geïnduceerd werd door een groepslid schijnbaar minder te laten bijdragen aan het publieke goed dan de gelijkheidsregel zou vereisen. Door het toedoen van deze schender werd het publieke goed niet behaald aangezien ieder groepslid deze gelijkheidsregel gebruikte en er dus een vierde te weinig werd bijgedragen. Daarna werd aan de helft van de deelnemers informatie gegeven dat het behalen van het publieke goed toch werd verschaft, waardoor financiële belangen alsnog voldaan werden. Als mensen (ondanks de behartiging van financiële belangen) negatief reageren betekent dit dat er geraakt werd aan iets fundamenteeler, een eerlijkhedenregel. Als mensen reageren op een schending van een eerlijkhedenregel is het belangrijk rekening te houden met individuele verschillen: sommige personen schenken namelijk meer aandacht aan eigenbelang (prozelvers), terwijl anderen ook belang hechten aan uitkomsten van anderen en gelijkheid (prosocialen). Dus de sociale waarde oriëntatie van mensen (Van Lange, 1999) speelt eveneens een rol in hoe

mensen zullen reageren op het schenden van een dergelijk belangrijke coördinatieregels.

De resultaten van twee experimentele studies toonden inderdaad aan dat voor personen met een prosociale waarde oriëntatie een schending van de gelijkheidsregel door een groepslid tot negatieve emotionele reacties leidde ongeacht of financiële belangen bevredigd waren of niet. Prozelvers daarentegen reageerden enkel negatief wanneer hun financiële belangen geschaad werden door de schending. Wanneer bleek dat deze niet in het gedrang kwamen reageerden zij veel minder negatief (ondanks dat de gelijkheidsregel geschonden werd). Deze resultaten tonen aan dat een schending van de gelijkheidsregel negatieve emotionele reacties oproept, en voor prosocialen was dit het geval ongeacht het feit of financiële zekerheid werd verkregen of niet. De gelijkheidsregel kan dus niet enkel gedefinieerd worden als een heuristisch die gemakkelijk in gebruik is, maar ook als een eerlijkhedenregel (vooral voor prosocialen). Als coördinatieregels geschonden worden ontstaat er bijgevolg een gevoel van onrechtvaardigheid en dit roept negatieve reacties op.

Als een dergelijke schending negatieve reacties oproept, betekent dit dat mensen zich zullen afvragen hoe de relatie in de groep is en of vertrouwen nog wel mogelijk is. In hoofdstuk 3 (Stouten, De Cremer, & Van Dijk, 2005a) beargumenteer ik dat het soort verklaring dat de schender van de gelijkheidsregel zou geven voor zijn/haar beslissing groepsleden hun reacties zou kunnen beïnvloeden. Deze verklaring hield in dat de schender de verantwoordelijkheid van de beslissing op zich nam (interne attributie) of zei dat de beslissing onder invloed van omstandigheden was ingegeven (externe attributie). Het feit of deze informatie belangrijk is voor de beïnvloeding van reacties is afhankelijk van hoeveel vertrouwen mensen in anderen hebben. Voornamelijk personen met veel vertrouwen in anderen zullen hun reacties laten leiden door de verklaring die gegeven wordt voor een dergelijke eerlijkhedenschending, terwijl personen met weinig vertrouwen een verklaring niet noodzakelijk meenemen in hun reacties.

De resultaten van drie experimenten toonden inderdaad aan dat personen met veel vertrouwen negatiever reageerden wanneer de schender van de gelijkheidsregel een interne verklaring gaf dan wanneer

deze een externe verklaring gaf. Dit in tegenstelling tot personen met weinig vertrouwen die in hun reacties niet beïnvloed werden door de verklaring van de schender. Bovendien was hetzelfde patroon terug te vinden voor vergeldingsacties. Personen met veel vertrouwen namen meer vergeldingsacties zoals het uitsluiten of het financieel bestraffen van de schender wanneer een interne in vergelijking met een externe verklaring werd gegeven. Wanneer de schender echter had gelogen over zijn eerder gegeven externe verklaring werd er daarenboven sterker emotioneel gereageerd en werden er meer vergeldingsmaatregelen genomen dan wanneer deze eerlijk was. Verder bleek het type verklaring (intern of extern) geen rol meer te spelen voor de vertoonde emotionele en vergeldingsreacties.

Een schending van coördinatie-regels lijkt dus vragen over de situatie in de groep op te roepen. Hoofdstuk 3 liet zien dat het geven van een verklaring de reacties van personen met vertrouwen kan matigen of juist verhogen. Mensen lijken dus hun reacties te baseren op het al dan niet verantwoordelijk zijn van de schender. De reacties die hierbij werden vertoond waren niet enkel negatieve emoties, maar ook vergeldingsgedrag. Het nemen van weerwraak was een belangrijke maatregel die groepsleden namen om diegene die verantwoordelijk was zijn/haar verdiende loon te geven. Niet enkel het type verklaring was hiervoor bepalend maar eveneens de eerlijkheid van deze verklaring. Wanneer er gelogen werd over de eerder gegeven externe verklaring waren reacties nog krachtiger dan wanneer de schender eerlijk was. Dus in situaties waar er sterk de nadruk ligt op financiële belangen zoals in sociale dilemma's zijn relationele kenmerken zoals de aard en de oprechtheid van de verklaring belangrijke factoren voor het ontstaan van sociale conflicten binnen de groep.

Een dergelijk sociaal conflict kan ook belangrijk zijn voor het accepteren en goedkeuren van coördinatie-regels. De gelijkheidsregel communiceert bijvoorbeeld dat alle groepsleden gelijk en solidair met elkaar zijn, terwijl de proportionaliteitsregel eerder in competitieve situaties wordt gehanteerd of wanneer er ongelijkheid is tussen de groepsleden (Deutsch, 1985). De proportionaliteitsregel wordt bijvoorbeeld in situaties gehanteerd als sommige groepsleden meer

verdienen dan anderen van het publieke goed. Deze ongelijkheid lijkt goedgekeurd te worden, ook door diegenen die financieel minder verdienen omdat groepsleden zich geaccepteerd voelen door de groep en dus de regels volgen die binnen deze groep gebruikt worden (Opatow, 1990).

Groepsleden worden echter niet altijd geaccepteerd door de groep en dit kan voor conflicten zorgen binnen de groep. Meningsverschillen, rivaliteit of gewoon niet aardig gevonden worden kunnen ertoe leiden dat mensen niet geaccepteerd zijn en zich uitgesloten voelen. Hoe zal er gereageerd worden op een ongelijkheid in verdiensten (hetgeen aanleiding geeft tot het hanteren van de proportionaliteitsregel) als groepsleden zich niet geaccepteerd voelen? Hoofdstuk vier (Stouten, De Cremer, & Van Dijk, 2005b) toonde aan dat wanneer groepsleden minder kregen van het publieke goed zij in vergelijking met groepsleden die meer verdienen negatiever reageerden wanneer zij niet aanvaard werden door de groep. Wanneer zij wel aanvaard werden door de groep reageerden groepsleden gelijkaardig ongeacht de opbrengsten die ze kregen. Dus het feit dat er gereageerd wordt op verschillen in financiële uitkomsten wanneer groepsleden uitgesloten worden, ondanks het feit dat de proportionaliteitsregel wordt gehanteerd, duidt erop dat een bevestiging van de wens aanvaard te worden een voorwaarde is voor de acceptatie van deze regel. Een focus op financiële verschillen zou vooral belangrijk moeten zijn voor personen die veel aandacht aan eigenbelang en financieel gewin schenken.

De resultaten van hoofdstuk vier toonden inderdaad aan dat vooral prozelvers sterker emotioneel reageerden en meer vergeldingsmaatregelen namen (zoals de groep willen verlaten en het nemen van wraak) wanneer zij sociaal uitgesloten werden en bovendien minder verdienen in vergelijking met wanneer zij meer verdienen van het publieke goed. Personen met een prosociale waarde oriëntatie daarentegen reageerden identiek onafhankelijk van de uiteindelijke verdiensten en ze reageerden zelfs minder negatief dan prozelvers wanneer zij minder zouden verdienen van het publieke goed. Dit laatste resultaat is enigszins verrassend omdat verwacht wordt dat prosocialen erg gefocust zijn op gelijkheid in uitkomsten en wederkerigheid van zowel

positief als negatief gedrag (Van Lange, 1999). In hoofdstuk vier werd verder aangetoond dat wanneer prosocialen er opvattingen op nahouden die gerelateerd zijn aan het 'oog om oog, tand om tand' principe (negatieve reciprociteit), zij even negatief reageren als prozellers in omstandigheden van sociale uitsluiting en lage verdiensten. Dit duidt erop dat prosocialen wel degelijk aandacht schenken aan ongelijkheid in verdiensten maar enkel wanneer zij opvattingen over negatieve reciprociteit omarmen.

Hoofdstuk vier toonde aan dat groepsleden die sociaal door de groep geaccepteerd worden gebruik maken van coördinatieregels. Wanneer zij echter sociaal uitgesloten blijken te zijn stuit de acceptatie van deze coördinatieregels op verzet en dit resulteert uiteindelijk in represailles. Dus de goedkeuring van coördinatieregels is afhankelijk van het feit of groepsleden zich gesteund voelen in hun behoefte om erbij te horen.

Samengevat tonen de bevindingen van deze dissertatie aan dat in sociale dilemma situaties coördinatieregels niet alleen belangrijke heuristische vertegenwoordigen die gemakkelijk te gebruiken zijn, maar dat coördinatieregels ook eerlijkheidsregels zijn. Wanneer bijvoorbeeld de gelijkheidsregel geschonden wordt reageren groepsleden (en met name prosocialen) ontzet en met sterke emotionele reacties hetgeen een conflictsituatie creëert in de groep. Factoren zoals de aard en eerlijkheid van de verklaring waarom de regel geschonden werd kunnen dan bepalend zijn om dit conflict af te remmen en escalatie te vermijden. Anderzijds kunnen deze factoren er ook voor zorgen dat vergeldingsmaatregelen worden genomen (met name voor personen die veel vertrouwen hebben). Deze maatregelen zijn niet alleen schadelijk voor het groepsbestaan en het groepsdoel maar eveneens voor diegene die de vergeldingsactie onderneemt. Op die manier neemt hij of zij immers het risico zelf het slachtoffer te worden van wederkerige vergeldingsacties. Coördinatieregels communiceren dus ook relationele groepsinformatie en geven kennis over hoe het klimaat in de groep is wat bepalend kan zijn voor het ontstaan van conflicten in de groep. Deze conflicten kunnen eveneens aanleiding geven tot verzet tegen coördinatieregels. De goedkeuring van coördinatieregels is dan afhankelijk van de vraag of groepsleden geaccepteerd worden of niet. Indien groepsleden zich sociaal uitgesloten voelen stuit de goedkeuring van

coördinatieregels eveneens op verzet en leidt dit (met name voor prozelvers) tot negatieve reacties en het gebruik van vergeldingsmaatregelen. Dit duidt erop wanneer sociale behoeften niet ingevuld worden, financiële belangen in belangrijkheid toenemen.

Coördinatieregels in sociale dilemma's kunnen dus beschouwd worden als eerlijkheidsregels die geaccepteerd worden en waarvan verwacht wordt dat ze daadwerkelijk gebruikt worden door de groepsleden. Het feit dat processen zoals attributie, eerlijkheid, sociale exclusie en uitkomsten zoals emotionele en vergeldingsmaatregelen een belangrijke positie innemen in sociale dilemma's wijst er eveneens op dat niet enkel eigenbelang maar ook de relaties in de groep een drijfveer zijn voor menselijke cognities en gedragingen. Wanneer een conflict ontstaat tussen persoonlijke en collectieve belangen spelen eerlijkheid en rechtvaardigheid in de vorm van coördinatieregels een belangrijke rol. Onrechtvaardigheid in deze situaties leidt tot het ontstaan van emotionele reacties zoals woede, frustratie, teleurstelling of vijandigheid. Bovendien kunnen deze emoties zich ontwikkelen tot destructieve acties zoals wraak nemen, straffen, of het verlaten van de groep.

Organisaties, beleidsmakers en teamleiders zouden meer aandacht moeten schenken aan het belang van deze coördinatieregels en de mogelijke gevolgen voor zowel de organisatie als voor de individuele leden. Het negeren van sociale conflicten die ontstaan door toedoen van onrechtvaardigheid leiden maar al te vaak tot uitkomsten die tegenstrijdig zijn met de belangen van organisaties. Voorbeelden hiervan zijn de verdeling van bonussen onder personeel (wie krijgt hoeveel?), loonbeleid volgens prestatie of niet en de gevolgen die ontstaan als welbepaalde landen meer bijdragen aan een overeengekomen milieubeleid dan anderen. Met het schrijven van deze dissertatie trachtte ik meer inzicht te krijgen in coördinatieregels als eerlijkheidsmotieven en hoe deze regels tot emotionele reacties en vergeldingsacties kunnen uitgroeien.

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Curriculum Vitae

Jeroen Stouten werd geboren op 12 april 1979 in Maaseik. Aan het Heilig-Hart College te Maasmechelen behaalde hij in 1997 zijn diploma van de middelbare school in Wiskunde-Moderne Talen waarna hij zijn studie psychologie aanvatte aan de Universiteit Maastricht. In 1999 en 2000 werkte hij als onderzoeksassistent aan de vakgroep Experimentele Psychologie. Nadat hij was afgestudeerd in de cognitieve psychologie in 2001 werkte hij als assistent-in-opleiding bij de vakgroep Experimentele Psychologie van de Universiteit Maastricht en vanaf 2004 bij de vakgroep Economische en Sociale Psychologie van de Universiteit van Tilburg. Vanaf oktober 2005 is hij werkzaam als postdoc onderzoeker bij de vakgroep Kwantitatieve en Persoonlijkheidspsychologie van de Katholieke Universiteit Leuven.

Jeroen Stouten was born on 12 April 1979 in the city of Maaseik. After that he graduated from high school in 1997 at the Heilig-Hart College in Maasmechelen (Mathematics - Modern Languages) he studied psychology at the University of Maastricht. In 1999 en 2000 he worked as a research-assistant at the department of Experimental Psychology of the University of Maastricht. After his graduation in cognitive psychology in 2001, he started working as a Ph.D.-student at the department of Experimental Psychology of the University of Maastricht, and from 2004 onward at the department of Economic and Social Psychology of Tilburg University. From October 2005 he is working as a post-doctoral researcher at the department of Quantitative and Personality Psychology of the Catholic University of Leuven.

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STELLINGEN

behorend bij het proefschrift

Virtue Summons the Fury: Coordination Rules and Fairness
in Social Dilemmas

van

Jeroen Stouten

1. Het is niet enkel interessant te kijken of coördinatieregels gebruikt worden, maar het is zelfs belangrijker te kijken hoe mensen reageren wanneer iemand deze regels overtreedt.
2. Een schending van de gelijkheidsregel roept vragen op over het waarom van deze gebeurtenis.
3. Economische theorie'n bestempelen eigenbelang als de belangrijkste motivatie voor menselijk gedrag, maar eerlijkheid en rechtvaardigheid in de vorm van coördinatieregels spelen eveneens een niet te onderschatten rol.
4. In situaties waar het individuele belang op het spel staat zijn emoties belangrijke componenten en kunnen ze des te grimmiger leiden tot weerwraak wat nadelige gevolgen kan hebben voor de persoon die de actie onderneemt.
5. Sociale uitsluiting van mensen of groeperingen kan leiden tot verzet tegen de in de organisatie of maatschappij gehanteerde regelgeving.
6. Organisaties zouden zich bewust moeten zijn van de gevolgen van schendingen van rechtvaardigheid en eerlijkheidsprincipes aangezien deze irritatie en frustratie kunnen oproepen en hierdoor vergeldingsacties mogelijk maken die het gewaardeerde groepsklimaat onderuit kunnen halen.
7. Wijzen bederven de feestvreugde (Erasmus, Lof der Zotheid, #25)
8. Principes van gelijkheid zijn enkel van belang wanneer alle deelnemers elkaar als gelijken beschouwen.
9. Leiders worden verondersteld een voorbeeldfunctie in te nemen maar bij gelegenheid laten ze de kans niet onbenut zich collectieve middelen toe te eigenen onder het mom van rechtmatigheid (Stouten, De Cremer, & Van Dijk, in press-b).
10. Careful with that axe Eugene (Pink Floyd)

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Dissertatiereeks
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