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All I need is a stage to shine: Narcissists' leader emergence and performance

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ABSTRACT

Many of the world's leaders appear to possess narcissistic characteristics (e.g., Deluga, 1997). This begs a question as to whether and why narcissistic individuals are chosen as leaders and how they perform. Prior research has suggested that leadership emergence and performance of narcissistic personalities may depend on contextual factors. Of particular interests are those contextual factors that pertain to the interdependence of work relationships, because narcissists typically tend to "shine" in social settings where they can influence others. Therefore, the present study investigated the leadership emergence and performance of narcissistic individuals in low versus high reward interdependent teams that participated in an interactive team simulation task. We found that narcissists emerged as leaders irrespective of the team's level of reward interdependence and their individual performance. Yet, high narcissists performed better in the high reward interdependent condition than in the low reward interdependent condition.

"It is probably not an exaggeration to state that if individuals with significant narcissistic characteristics were stripped from the ranks of public figures, the ranks would be perilously thinned." (Post, 1993, p.99)

Statements such as these stir our interests and make us wonder if leadership and narcissism indeed go hand in hand. Overconfidence, extraversion, dominance, high self-esteem and superficial charm are precisely the right ingredients that people look for in a leader, and narcissists possess these in abundance. This may be the reason why many of the world leaders and CEOs have been ascribed with narcissistic characteristics (Deluga, 1997; Glad, 2002; Maccoby, 2000). It has been suggested that narcissists are drawn to and thrive in high profile jobs, due to their unwavering desire for glory and to exhibit their competencies (Wallace & Baumeister, 2002). The leadership role may provide them with an alluring stage from which they can show off their superiority to others. A social stage in particular allows leadership behavior to become more visible to others and offers narcissists an opportunity to show off their leader like qualities and excellent performance. A stage does not necessarily require a podium or a large audience; it suffices if narcissists perceive the presence of a few others to demonstrate their competence and superiority (e.g., Wallace & Baumeister, 2002), as would be the case in a team-based setting.

Indeed, preliminary evidence indicates that narcissistic individuals tend to emerge as leaders (e.g. Brunell et al., 2008; Judge, LePine, & Rich, 2006). Yet, narcissism has been suggested to incorporate a dark side that can be harmful (Hogan, Raskin, & Fazzini, 1990). Narcissism is accompanied by a sense of entitlement and egoism, which may lead to unethical, exploitative behavior (Maccoby, 2000; Rosenthal & Pittinsky, 2006). Thus, identifying the specific contexts in which narcissistic individuals rise to leadership positions and show their competencies is important.

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Since narcissists are particularly preoccupied with seeking a social stage upon which to show off their superiority, the role of a social context seems to be very important in affecting their leader emergence. It is hence surprising that this has not been investigated in prior research. Furthermore, greater levels of interdependence and interaction, that may constitute the social stage in a team-based setting, may also make the leader qualities and performance of any one team member more visible. Since narcissists possess many of the prototypical leader qualities (Smith & Foti, 1998), their aptitude as leaders should be even more prominent. Thus, a highly interdependent and interactive team setting, such as one of high reward interdependence, would be expected to impact leadership emergence of narcissists and the processes involved. Individuals in high reward interdependent teams have to coordinate their activities and exchange information much more (Beersma et al., 2003; De Dreu, 2007; De Dreu, Nijstad, & Van Knippenberg, 2008; Deutsch, 1949; Stanne, Johnson, & Johnson, 1999) than those in low reward interdependent teams since the collective team performances, rather than individual performances, are rewarded.

Another related issue which has received little attention in prior research is the performance of narcissists in a team-based setting. Does the strength of narcissistic individuals lie merely in their leadership qualities or are they also superior performers, as they themselves are inclined to believe? Research into the area of narcissistic performance has revealed somewhat inconsistent results (e.g., Chatterjee & Hambrick, 2007; Farwell & Wohlwend-Lloyd, 1998; Gabriel, Critelli, & Ee, 1994; John & Robins, 1994; Raskin, 1980; Robins & John, 1997). The source of these inconsistencies has been linked to contextual factors, such as the amount of task challenge, situational pressure, and the presence of an evaluative audience, all of which provide opportunities for self-enhancement (Wallace & Baumeister, 2002). Narcissistic individuals' need for self-enhancement should also be well served in conditions where they are able to influence the behaviors of others, such as in team settings where team members have to coordinate their individual contributions and communicate with each other in order to be rewarded for the team's performance. In such a high reward interdependent context narcissistic individuals are provided with an opportunity to exhibit their superiority.

In the current study we examine the leader emergence and individual performance of narcissistic individuals in teams under conditions of high versus low reward interdependence. To date, this is the first study that examines leader emergence and the individual performance of narcissists in an interactive team setting, while manipulating the context. With our study we fill the void in research on the presence of narcissistic individuals in group settings (e.g., Brunell et al., 2008; Campbell, Bush, Brunell, & Shelton, 2005; Paulhus, 1998). Below, we first summarize the relevant literature with respect to narcissism. Based on extant theories and empirical findings, we then propose hypotheses about the leadership emergence and individual performance of narcissists in teams with high or low reward interdependence.

1. Narcissism

In Greek mythology there was a young man called Narcissus who became so enamored with his own reflection in a pool he eventually perished due to his own self-absorption, dying of languor. The main characteristics of narcissism include grandiosity, an exaggerated sense of self-importance, exploitativeness of others, lack of empathy, sense of entitlement, self-centeredness, and a feeling of superiority and vanity (DSM IV; American Psychiatric Association, 1994). The present study focuses on sub-clinical narcissism in general populations rather than merely the pathological end of the narcissistic continuum as is studied in clinical psychology.

Narcissistic individuals crave admiration and are relentlessly concerned with how well they are doing and how favorably they are regarded by others. They need constant validation from the external world and require an audience in order to construct and maintain their grandiose self (Morf & Rhodewalt, 2001). It is this narcissistic grandiose sense of self importance which leads them to believe they are extraordinary performers relative to others. Prior research has found that narcissists significantly overestimate their performance (Farwell & Wohlwend-Lloyd, 1998), their leadership potential (Judge et al., 2006) and their contribution in comparison to how they are rated by others (John & Robins, 1994). They also tend to overestimate their level of (physical) attractiveness (Buffardi & Campbell, 2008) as well as their intelligence (Gabriel et al., 1994), and they amplify their positive personality characteristics (Paulhus, 1998). Given that narcissists are so preoccupied with proving their superiority in front of others they would relish an opportunity to enter highly interdependent and interactive social settings where they can exhibit themselves. Thus, for a narcissist, social interactions represent settings for the enactment of social manipulations and self presentations (Morf & Rhodewalt, 2001).

Stemming from their underlying need to exhibit superiority (Morf & Rhodewalt, 2001), narcissistic individuals will be preoccupied with seeking a social stage upon which to perform. This process allows them to confirm their own grandiose and idealized views. In fact inherent within the concept of narcissism is the notion that other people function as members of an audience, through whose admiration the narcissistic individual bolsters his or her own self image (Rosenthal & Pittinsky, 2006). It is through the interaction with other people that narcissistic individuals can be recognized as leaders and show their leadership qualities.

Conversely, individuals low on narcissism may not regard a social stage as a necessary requirement for performing, because they do not possess the narcissist's obsessive need to continuously seek external validation. Indeed it was found that low narcissists performed consistently irrespective of whether their performance was made public, whereas high narcissists needed public evaluation to engender higher performance (Wallace & Baumeister, 2002). Given that the social arena is much more essential to the self-construction of narcissists than non-narcissists, a stage would be an indispensable element for narcissistic individuals to perform. This will also translate to narcissistic leaders, whose obsession with being on the social stage in front of an audience of admiring followers would far outweigh that of non-narcissistic leaders.

2. Narcissists' leadership emergence

People seem to share a set of general beliefs about the characteristics related to leadership in varied situations (Smith & Foti, 1998). If a particular individual matches the leadership prototype they are more likely to be viewed as a leader by others. Thus, leadership emergence depends upon this fit between people's beliefs about what traits comprise a successful leader and the presence of these traits in a particular individual. Some of the chief characteristics synonymous with leadership emergence include intelligence, dominance, high self-esteem, extraversion, confidence and generalized self-efficacy (Judge, Ilies, Bono & Gerhardt, 2002; Paunonen, Lönnqvist, Verkasalo, Leikas, & Nissinen, 2006; Smith & Foti, 1998). Narcissists have been found to be high on dominance and power (Carroll, 1987; Emmons, 1989), confidence (Campbell, Goodie, & Foster, 2004; Robins & Beer, 2001), self-esteem (Emmons, 1984), self-efficacy (Watson, Sawrie, & Biderman, 1991) and extraversion, and they are perceived as being more intelligent by others (Paulhus, 1998). Thus, narcissistic individuals do possess most of the prototypical leadership traits, which suggests that they are likely to emerge as leaders across situations. It is highly probable that other people will consistently perceive a narcissistic individual as someone who is of leadership caliber.

Only few studies on leadership emergence in teams have focused on the presence or absence of narcissistic traits in individuals that emerge as leaders (Brunell et al., 2008; Judge et al., 2006). Brunell et al. (2008) conducted a study on leader emergence in leaderless group discussions and found that narcissistic individuals in these groups emerged as leaders. We, therefore, expect a similar mechanism in teams where team members have to work on a specific goal directed team task.

Hypothesis 1. Individuals high in narcissism will be more likely than individuals low in narcissism to emerge as leaders in the team.

In the few prior studies that examined leader emergence of narcissistic individuals (e.g., Brunell et al., 2008), the effect of context was not taken into consideration. This is unfortunate, as narcissists' need for self-enhancement through external validation (Morf & Rhodewalt, 2001) suggests that the specific team context could play an important role. In the current study we seek to fill this void by examining the specific contexts in which narcissists are more likely to emerge as leaders. Specifically, we propose that higher interdependence and thus social interaction among team members may amplify members' visibility and thus increase opportunities to better observe the leader-like qualities of certain team members.

3. The role of team context

Extant literatures suggest that narcissistic leadership emergence may be contextually dependent. In an educational setting, Judge et al. (2006) found that narcissism was positively related to classmates' ratings of leadership. However, in another setting involving members of a beach patrol, this effect was not observed and team members did not rate narcissistic individuals more positively. This discrepancy in research findings points to the possibility that leadership emergence is dependent on the specific context. However, this premise has received little attention in research on narcissistic leadership to date.

The leadership emergence of narcissistic individuals will likely depend on the level of reward interdependence within the team since this team characteristic tends to be strongly related to the intensity of team members' interactions. There is high reward interdependence within the team if the team is rewarded for the group outcome, whereas there is low reward interdependence within the team if team members are rewarded for their individual performance (Wageman & Baker, 1997). Teams that need to work interdependently in order to achieve a group reward have to exchange more information, interact and share knowledge about their performance (Beersma et al., 2003; De Dreu, 2007; De Dreu et al., 2008; Deutsch, 1949; Stanne et al., 1999). Such a reward structure also requires greater levels of planning and communication in order to coordinate tasks (Strauss, 1999).

Thus, high reward interdependence will stimulate greater interaction and collaboration among the team members since they are required to work together and interact in order to achieve a performance that will allow them to receive the group reward. Consequently, such a context asks for a leader who coordinates individual contributions and communicates the team efforts in order to attain an optimal group performance. As such, especially in a high interdependence context, team members will be motivated to seek out an individual to become a leader to guide them whereas this motivation will be less in a low interdependent context where team members will tend to work more on their own.

The greater interdependence, interaction and need for coordination in a high interdependent context would also make leader like qualities of individual members more easily observable. Given that leader emergence is concerned with the degree to which an individual is viewed by others as a leader (Judge, Ilies, Bono, & Gerhardt, 2002), greater social visibility would allow the leader qualities of any one individual to be more readily apparent to other team members. Thus, when an individual displays leader like qualities, other team members are more likely to identify that member as a potential leader when there is high interdependence.

Since narcissists possess many of the qualities that are associated with a prototypical leader (Smith & Foti, 1998) they will likely emerge as leaders, especially in high reward interdependent settings. In such settings, narcissistic individuals may be more likely to act in a leader-like manner and show off the traits that are prototypically associated with a leader, such as confidence, dominance and self-efficacy, because they have an audience to elicit these exhibitionistic displays (cf. Emmons, 1984; Raskin, Novacek, & Hogan, 1991). As stated, narcissists need a social stage to be able to show off their superiority, and due to their overconfidence in seeing themselves as a suitable leader (Judge et al., 2006) they will likely flaunt their leadership skills in such a context. An interdependent context also provides the opportunity to exert power and influence over other people and, according to trait activation theory (cf. Tett & Burnett, 2003), may thus activate dominance and leadership tendencies inherent to narcissistic individuals. All in all, due to the greater need for a leader and the visibility of leader like qualities in a high reward interdependent

team setting, together with the greater opportunity for narcissistic self-enhancement, we expect narcissists to more likely emerge as leaders in a high rather than low reward interdependence context. We hypothesize:

Hypothesis 2. Individuals high in narcissism will more likely emerge as leaders in high rather than low reward interdependent team settings.

4. Performance of narcissistic individuals

Given that narcissistic individuals are likely to emerge as leaders, it would be interesting to know whether they are also superior performers on the team task, in accordance with their over inflated beliefs. Narcissism has been previously studied as a potential antecedent of performance, but these studies have led to conflicting results. For example, Raskin (1980) found that narcissism positively correlated with creativity. However, other researchers (Brunell et al., 2008; John & Robins, 1994) could not establish a relationship between narcissism and performance or showed that narcissists' performance oscillated between extremes due to their tendency to take bold and risky actions (Chatterjee & Hambrick, 2007).

Wallace and Baumeister (2002) assumed that these inconsistencies in performance outcomes could stem from varied contextual conditions. They tested this proposition by conducting four experiments in which they altered the conditions for self-enhancement opportunity. The findings of these experiments indeed show that narcissists perform better in situations that afford them with opportunities for self-enhancement such as those that contain pressure, challenging tasks and an evaluative component. Thus, narcissism does appear to be positively linked with performance, yet it is contextually dependent. This study did not, however, examine the effect of context on narcissistic performance in an interactive group setting.

The present study builds upon this prior research in order to identify the types of conditions that are more amenable to improved narcissistic performance. To date, the dynamic interplay between individuals in an interactive team setting has not been studied while manipulating the context. This is the first study to observe the performance of narcissistic individuals in interactive team settings operating under different conditions. We, specifically, expect that the level of reward interdependence will affect narcissistic individuals' performance in a similar way as proposed for their leadership emergence.

When narcissists find themselves in an interactive setting, such as one of high reward interdependence which demands greater coordination and information exchange among the team members (Beersma et al., 2003; De Dreu, 2007; De Dreu et al., 2008; Deutsch, 1949; Stanne et al., 1999), they have a greater opportunity to show themselves as superior performers in front of others. Given that narcissists actively seek to demonstrate their competence relative to others (Wallace & Baumeister, 2002), a high reward interdependent setting will thereby provide them with more possibilities to self-enhance and to observe the immediate impact of their performance. Furthermore, since narcissists perceive themselves as superior performers and possess extreme overconfidence and arrogance, they may naturally believe that other team members require their excellence to perform well as a group. If the group performs well, as will be revealed publicly, narcissistic individuals likely attribute this success to their own superior performance and leadership skills. Because narcissistic individuals are driven by their desire to exhibit their talents to others, they will be relatively less motivated by individual rewards. It appears that self-referential feedback is not that important to them (Wallace & Baumeister, 2002). Hence, in a low reward interdependent context when nobody is aware of each others' individual performance, narcissistic individuals will be less motivated to excel. In contrast, the self-enhancement value of high performance will increase with public evaluation and the possibility of other people being aware of the narcissist's input, which is most likely in a high reward interdependent context.

Due to their highly exhibitionistic tendencies (Buss & Chiodo, 1991), narcissistic performance may also be enhanced by the effects of social facilitation. It was found that extraverts experienced improved performance when they were in front of an audience (Graydon & Murphy, 1995; Uziel, 2007). Thus, since narcissism has been consistently linked to extraversion (e.g., Campbell, 1999; Carroll, 1987, Miller & Campbell, 2008; Raskin & Hall, 1979) the greater visibility of a narcissistic individual in a high interdependence setting will energize them and improve their performance.

In addition, trait activation theory (Tett & Burnett, 2003) can be used to argue that the narcissistic personality features may become even more pronounced in the reward interdependent condition as it would afford opportunities for expressing their particular spectrum of personality traits, namely a desire to assert their superiority and competence over others, hence to perform better. The narcissistic individual may want to show off their talents as well as provide a strong model for superior performance to other members. As such they will focus on performing well in the task. Finally, narcissism has been linked to inter-group ethnocentrism (Bizumic & Duckitt, 2008), which means that narcissistic individuals tend to identify with their own group as long as this is not contrary to their self-interest. As such, their affiliation with the group will motivate them to perform better under conditions where the group has to compete with other groups.

Thus, since narcissistic individuals are driven by their underlying desire to exhibit their superior talents and competencies to others, an interactive setting where their qualities are more visible, such as one of high reward interdependence, would be expected to enhance their individual performance. We hypothesize:

Hypothesis 3a. Individuals high in narcissism will perform better in high rather than low reward interdependent team settings.

However, there is literature that points to an alternative proposition in that it suggests negative effects of narcissism on performance, especially in a high reward interdependent context. First of all, an alternative possibility has been suggested by work on the detriments of chronic pursuit of self-esteem (Crocker & Park, 2004). It may be that narcissists' incessant pursuit of self-

esteem will hinder performance. When people possess self-validation goals and strive for validation in tasks, then mistakes, failures, criticism, and negative feedback are self-threats rather than opportunities to learn and improve (Covington, 1984; Deci & Ryan, 2000; Dweck, 2000). Secondly, narcissists' constant preoccupation with conveying themselves as competent and extraordinary performers may lead to a loss of task focus. Self presentation efforts, particularly in situations when an individual is strategically attempting to express a particular image may have the effect of draining self regulatory resources (Vohs, Baumeister, & Ciarocco, 2005). Thus, the narcissistic individual may be placing so much effort and concentration into self-presentation that it could have a detrimental effect on task performance. Thirdly, narcissists also possess an array of defensive strategies in order to buffer themselves against failure, one of which includes self-handicapping in uncertain situations (Rhodewalt, Tragakis, & Finnerty, 2006). By hampering their performance at the outset, these handicaps allow for discounting of subsequent failure and potential amplification of success. Such behavior may also have negative repercussions on narcissistic performance, especially in a context of high reward interdependence where there is greater visibility and pressure to perform. Therefore, we offer the following alternative hypothesis:

Hypothesis 3b. Individuals high in narcissism will perform worse in high rather than low reward interdependent team settings.

5. Method

5.1. Research participants

Two hundred and thirty-six undergraduate psychology students at the University of Amsterdam were organized into 56 four-person work teams. Data are reported for 221 participants (132 females and 89 males) after excluding some participants due to technical difficulties. In return for their participation, participants earned class credit or €20, and were also eligible for cash prizes (€10 per student) based upon their performance (see “Reward structure” under “Manipulations and Measures,” below).

5.2. Task and objectives

Participants engaged in a dynamic and networked computer simulation. The task was a modified version of a simulation developed for the U.S. Department of Defense for research and training, Michigan State University Distributed Dynamic Decision Making (MSU-DDD). The version of the task used here was developed for individuals with little or no military experience and has been utilized in prior research (e.g. Beersma et al., 2003; Ellis et al., 2003; Hollenbeck et al., 2002, Moon et al., 2004).

The nature of the DDD task is such that it allows for substantial interaction between team members, the degree of which is expected to vary between the conditions. A greater interaction tends to occur under high reward interdependence. The individual team members were encouraged to verbally share information with each other about what they were seeing on the screen and what vehicles would be needed to deal with a particular target, since no single member was capable of viewing the entire geographic space. Furthermore, team members were seated behind computers while facing each other at one table, which allowed for face to face interaction. Prior studies that have utilized the DDD task in group research also found that the nature of the task allowed for significant interaction (i.e. information sharing, asking for assistance or other ways of communicating) among team members (e.g. Beersma et al., 2003; DeRue, Hollenbeck, Johnson, Ilgen, & Jundtet, 2008).

As we were interested in leader emergence, we did not specify a priori leader and follower roles, thus enabling the development of leadership during the task (Judge et al., 2002). Within the DDD task, as in many real-life organizational settings, team members had to make decisions and take independent actions while coordinating their plans and actions with their team mates and interacting with them (see e.g., Beersma et al., 2003). As such, during the task, team members had ample opportunities to demonstrate their leadership characteristics and could obtain perceptions about the leader qualities of other team members; for example, how active and assertive other team members were, whether they took over decision making, dominated discussion, and enhanced team coordination or whether they were passive. We will explain the task in more detail below.

5.2.1. The geographical space and mission

Fig. 1 depicts the grid used in MSU-DDD. This grid was partitioned in several ways. First, four geographic quadrants of equal size (NW, NE, SW, SE) were defined, and each area was assigned to one team member, who was called a “decision maker” (hence the abbreviation “DM” in Fig. 1). The grid was also divided into three zones that varied on the extent of protection from penetration by unfriendly forces they needed. The regions were labeled “neutral,”“restricted” (a 12-by-12 grid in the center), and “highly restricted” (a 4-by-4 grid in the center of the restricted zone). The team's mission was to monitor this air and ground space, keeping unfriendly forces from moving into the restricted areas, while at the same time allowing friendly forces to move about freely. Radar representations of these forces moving through the geographic space monitored by the team were known as “tracks.”

Each decision maker's base had a detection ring (base DR in Fig. 1) radius of roughly six grid units to use in monitoring the geographic space. The decision maker could detect the presence or absence of any track within this detection ring. Each base also had an identification ring (base IR in Fig. 1) radius of roughly four grid units. A team member could discern whether a track was friendly or unfriendly once it was within this range. Any track outside the DR was invisible to the team member from the base. A team member who wanted to determine the nature of a track outside the identification ring had two options: ask teammates to share that information, or launch a vehicle and move it near the track. Since each vehicle had its own detection and identification

rings and could be moved anywhere on the screen, all participants could detect and identify any track anywhere on the screen, but it took more effort to engage tracks outside of one's personal region.

5.2.2. Vehicles

Each team member had control of four vehicles that could be launched and moved to different areas of the screen. These vehicles could automatically perform certain functions (follow designated tracks, return to base to refuel, and so forth), and hence each team member was the manager of semi-intelligent agents. Each team member had one AWACS plane, one tank, one helicopter, and one jet. These vehicles varied in their capacities on four dimensions: range of vision, speed of movement, duration of operability, and weapons capacity.

An asset that was high on one dimension tended to be low on another, meaning each asset had its own unique advantages and disadvantages. For example, the tank had high weapons capacity but a short range of vision, whereas the AWACS had low weapons capacity but a wide range of vision. Thus, the various vehicles constituted a complex set of assets that ranged widely in their capacities. A symbol for each vehicle appears in Fig. 1, along with the ranges of vision that characterized each vehicle (depicted by the largest ring surrounding each vehicle). A team member could operate any or all of the vehicles concurrently, but it took more effort to simultaneously operate multiple vehicles. For example, when a track appeared, a person could simply launch one vehicle and move it to engage the incoming track. Alternatively, the same person could work quickly to launch all four vehicles, move them to various areas of the geographic space, in anticipation of incoming tracks, and intercept them as soon as they crossed over into the restricted zone. Because of the variation in the four vehicles' capacities, it required a great deal of cognitive effort to effectively have all four vehicles out at once and then use them efficiently, but doing this did increase the speed with which tracks were engaged.

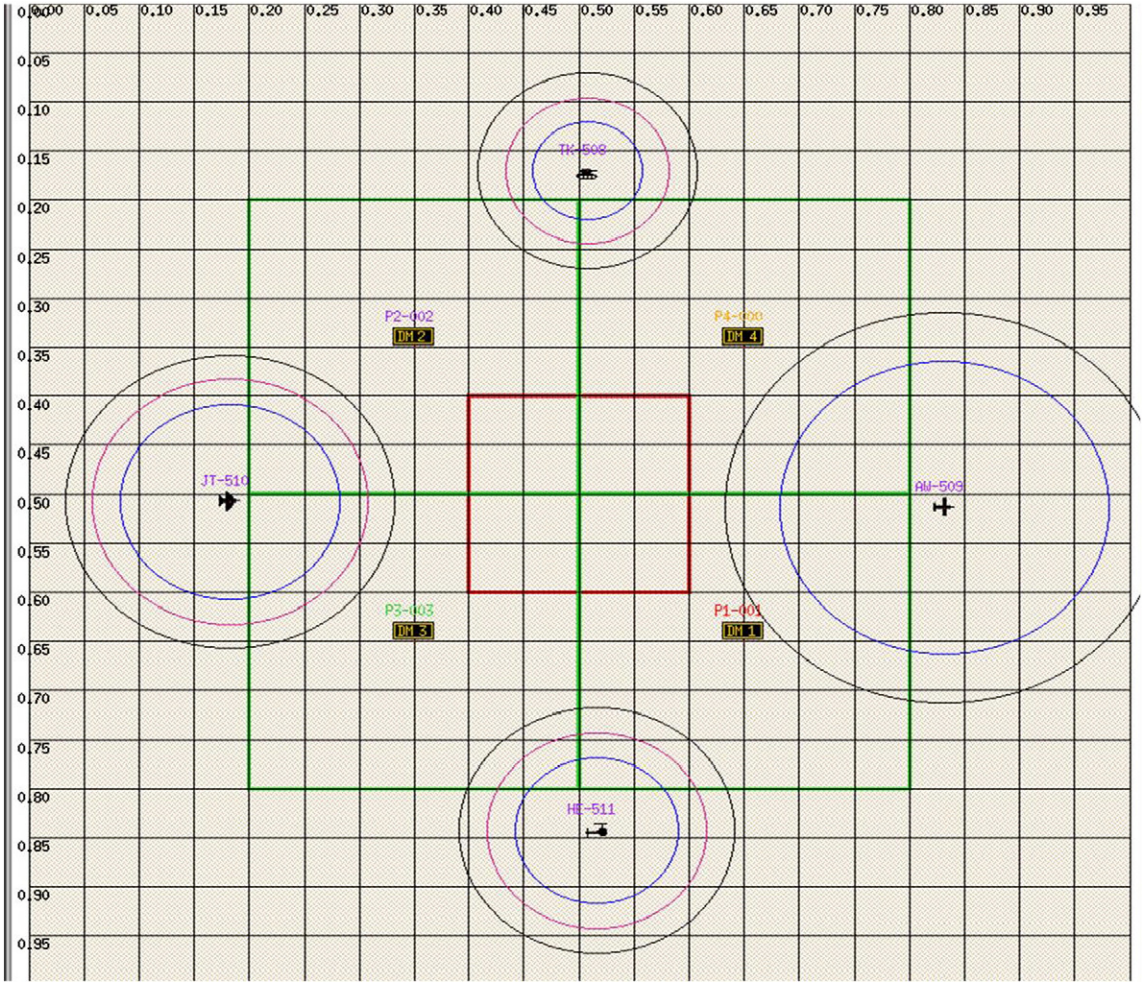

Fig. 1. The DDD-MSU grid providing a snapshot that the participants viewed.

5.2.3. Identifying and engaging tracks

All tracks originated from the edge of the screen and proceeded inward. It was important for team members to identify tracks quickly and differentiate them along two dimensions: (1) friendly versus unfriendly and (2) standard versus novel. When a track was close enough to be detected but not close enough to be identified, it was represented by a question mark followed by a unique identification number set above a diamond (see the bottom right portion of Fig. 1 for an example). Once the track came within the identification range of either the base or a vehicle, the team member could identify it. Once identified, the symbol representing the track changed from a diamond to a rectangle with a letter-number combination in it (see the middle of Fig. 1). The letter indicated whether the track was in the air or on the ground. The number indicated whether the track was friendly or unfriendly, and if it was unfriendly, the amount of power needed to disable it. The team member who made the identification was the only one who could see this information, although he or she could share this information with other team members.

If a track within the restricted zones was identified as being unfriendly, team members needed to disable it. There were two requirements for successful disabling. First, the track had to be close enough, meaning that it had to be within the attack ring of the vehicle engaging it. Second, the vehicle needed to have as much power as the track (as indicated by the number in the rectangle), or more power. If a team member attempted to engage a track that was too far away or for which he or she had insufficient power, the track continued on unimpeded. If the track was successfully engaged, it disappeared from the screen. The attacking vehicle then had to return to base to reload and refuel.

There were eight types of "standard tracks" that were known a priori to have specific characteristics, and these were taught in the training session prior to the start of the task. There were also four types of "novel tracks" that were not encountered during training. Thus, team members did not know whether the novel tracks were air-based or ground-based, or friendly or unfriendly, or powerful or not powerful. Trial-and-error experience gained from the simulation was the only source of this knowledge. Thus, determining the nature of the novel tracks was a complex deductive exercise in which some behaviors were more diagnostic than others (better for supporting or refuting specific hypotheses about a track). This complexity created an opportunity for decision-making errors to occur, and thus the performance of team members could be evaluated not just in terms of their successful attacks, but also in terms of errors that they committed in executing these attacks. Thus, a team's objective was to disable enemy tracks as fast as possible while not disabling any friendly tracks.

5.3. Manipulations and manipulation checks

5.3.1. Manipulation of reward interdependence

We manipulated reward interdependence as a proxy for frequency of interaction. Teams were randomly assigned to either a high or a low reward interdependence context. Participants assigned to the high reward interdependence condition were informed that the top 3 performing teams would receive a reward of €40, which would be split evenly among the team members. Participants in the low reward interdependence condition were informed that the top 12 performing individuals of all teams would each receive a reward of €10, regardless of how well their teams performed as a whole. They would receive the information about a possible reward, as a group or individually, respectively, after all teams involved had worked on the task. Teams in the high reward interdependence condition would have a greater incentive to work together and interact in order to reach the team outcome and obtain the reward, whereas teams in the low reward interdependence condition would have an incentive to work more independently in order to obtain the individual reward.

5.3.2. Manipulation checks

We used several measures to check the adequacy of the manipulation. We assessed participants' low and high reward interdependence orientation and the amount of communication among the team members.

Reward interdependence orientation was measured with an eleven-item low reward interdependence orientation scale and a six-item high reward interdependence orientation scale (1 = *"strongly disagree"* and 7 = *"strongly agree"*). A sample item used to measure low reward interdependence orientation was "My individual performance was more important to me than the functioning of the team". A sample item used to measure high reward interdependence orientation was "During the task it was important to get as many points as possible for the team." The eleven low interdependence items formed a reliable scale ($\alpha = .77$), as did the six high interdependence items ($\alpha = .78$).

Communication among the team members was measured in order to ascertain whether the manipulation of reward interdependence affected the level of interaction in the teams. We utilized a nine-item scale ranging from 1 = *"strongly disagree"* to 7 = *"strongly agree"*. A sample item was "We talked a lot about what should happen in the task". The scale had a good reliability ($\alpha = .81$).

5.4. Measures

For testing our hypotheses, we measured participants' narcissism as the independent variable, and leadership emergence and performance as dependent variables. In addition, with the aim of further deepening our knowledge of the underlying processes, we also measured several process variables such as: team members' perceptions of individual decision making, information transfer, and team member assistance during the task. The latter two measures are objective indicators of team coordination. Finally, we incorporated control variables such as: gender, computer skills, and computer mouse skills.

5.4.1. Independent variables

Narcissism was measured using the short 16-item version of the Narcissistic Personality Inventory (NPI; Ames, Rose, & Anderson, 2006). This measure is based on the original 40-item NPI (Raskin & Hall, 1979, 1981) which has been extensively used in prior research as a self-report measure of narcissism (e.g. Brunell et al., 2008, Rhodewalt & Morf, 1998, Wallace & Baumeister, 2002). Ames et al. (2006) reported a correlation of .90 between scores on this measure and the full 40-item NPI and showed that the measure had notable face, internal, discriminant, and predictive validity. The NPI-16 has been shown to have good reliability in prior research (e.g. Konrath, Bushman, & Tyler, 2009; Witt, Donnellan, Blonigen, Krueger, & Conger, 2010). It has a forced choice format and examples of some of the items are: "I am apt to show off if I get a chance" as a narcissistic response or "I try not to be a show off" as the non-narcissistic response. The NPI score was computed as the mean across 16 items, with narcissism-consistent responses coded as 1 and narcissism-inconsistent responses coded as 0. One item was dropped due to an insufficient (<.30) corrected item-total correlation. The scale proved to have good reliability ($\alpha = .70$).

5.4.2. Dependent variables

Leadership emergence was measured using a ranking score of other group members as per Smith and Foti (1998). Group members completed the following statement: "If you were asked to meet a second time with this exact group to work on an identical type of task, please rank in order, your preference for a leader. Please include yourself in the rating." Based on these rankings and in line with previous research (Smith & Foti, 1998), we identified the number of times that an individual was ranked as number one by the other group members. Self-ratings were not included in the ranking. Therefore, an individual's leadership ranking could range from 0 in instances where no other group members chose them as the leader to 3 where all three other group members chose them as the leader. This measure has been successfully implemented in prior studies (e.g. Gershenoff & Foti, 2003; Smith & Foti, 1998).

5.4.2.1. Performance. Individual performance on the interactive task was obtained directly from the automatic output recorded by the MSU-DDD program and, thus, constitutes an objective measure of performance. This output included the individual offensive score that was computed by adding 5 points for each successful elimination of the enemy target and subtracting 25 points for each error. These errors are comprised of either attacking a friendly vehicle or attacking a target outside the zone of engagement. We believe this measure adequately reflects the performance of individuals since the main goal of the DDD task was to disable enemy targets while trying to avoid disabling friendly targets. These types of performance measures have been utilized in prior studies using the DDD task (e.g. Beersma et al., 2003, 2009; Ellis et al., 2003; Hollenbeck et al., 2002).

5.4.3. Process variables

5.4.3.1. Individual decision making. To measure the extent to which team members perceived that they had to make decisions we asked them one question on a seven-point scale ranging from 1 = *"strongly disagree"* and 7 = *"strongly agree"*. The item was "While working on the task I often had to make many decisions".

5.4.3.2. Information transfer. This team process level variable was provided by automatic output recorded by the MSU-DDD program. It includes the number of times that the option of transferring information about unidentified vehicles to other players was used. This is a measure of non-verbal sharing of information about the task.

5.4.3.3. Team member assistance. Behavioral coordination refers to the process of orchestrating the sequence and timing of interdependent actions (Marks, Mathieu, & Zaccaro, 2001). Coordinating efficiently means that team members mutually adjust their actions in order to align the pace and sequencing of their contributions such that this leads to effective performance. Team members showing effective coordination support and facilitate each other's task accomplishment via workload sharing. They make sure that the task is approached in such a way that the right person is at the right place at the right time. Within the DDD-task, this means that if there are many targets that need to be attacked in one team member's quadrant, other team members should venture into this quadrant to help with the attack. In the current study, we therefore operationalized team coordination, via team member assistance, as the number of times that team members used their vehicles to venture into other team member's quadrants to assist with attacking targets there. This team process level variable was also automatically generated by the MSU-DDD program.

5.4.4. Controls

We included three control variables in our study: gender, computer skills and computer mouse skills. We included gender because, generally, males have been found to be more narcissistic than females (Tschanz, Morf, & Turner, 1998) and it has become a common control variable in research on narcissism. Computer skills and computer mouse skills were controlled for since this was a computer task. Our measure of computer skills was obtained with a 7-point response scale and the specific item "I am skillful at using computers", and similarly for computer mouse skills with the item "I am skillful in using the computer mouse".

5.5. Procedures

We first administered the NPI to assess participants' level of narcissism. Subsequently, each participant was randomly assigned to a four-person team, and then the teams were randomly assigned to reward interdependence conditions. The teams were trained together for approximately 90 min. Since rewards can only work if people have feedback and knowledge of results, we focused the team members on the relevant scores (individual scores in the low reward interdependence condition and team scores in the high reward interdependence condition) throughout the training.

The first 30 min of training were devoted to familiarizing the participants with the object of the simulation, the scoring, and the capabilities and characteristics of the vehicles employed in the simulation. The next 30 min of training concentrated on how to manipulate the vehicles: launching them, moving them around the screen, identifying targets, and disabling targets. The final 30 min of training provided the participants with an opportunity to practice their new skills in an environment similar to the environment in which they would later perform. During this period, participants were allowed to ask their trainers questions as they practiced. In addition, the trainer could help those who seemed to be having difficulty with the task.

The teams then performed the task for the experimental session, during which each team, regardless of condition, experienced the same number, nature, timing, and sequence of tracks. The experimental session lasted 30 min. Thus, the task was identical for all the teams. A total of 76 tracks appeared during the experimental session, and each participant experienced 19 tracks that originated in his or her quadrant. The tracks never stayed within the quadrant they originated in; instead, they crossed from one team member's area to another. At the conclusion of the task the participants ranked each other on leadership and responded to the process measures.

6. Results

6.1. Descriptive statistics and manipulation checks

Table 1 presents the means, standard deviations, and correlations for the variables of interest. The NPI scores were significantly correlated with gender, showing that males were more narcissistic than females. Therefore, gender was controlled for in the subsequent analyses. Computer skills and computer mouse skills were significantly positively correlated with gender. Since individual performance was measured as an offensive score from computer output, we controlled for computer skills and computer mouse skills when testing Hypothesis 3.

Analysis of variance (ANOVA) of high versus low reward interdependence showed that the manipulation was successful. Teams working with high reward interdependence had a greater reward interdependence orientation, and saw themselves as working towards a team goal ($M = 4.98$, $SD = 0.44$) than teams in the low interdependence structure ($M = 3.74$, $SD = .32$), $F(1, 54) = 129.27$, $p < .001$, $\eta^2 = .71$. Also, teams with low reward interdependence had a lower reward interdependence orientation and saw themselves as working more independently ($M = 4.67$, $SD = 0.43$) than teams with high reward interdependence ($M = 3.43$, $SD = 0.59$), $F(1, 54) = 86.25$, $p < .001$, $\eta^2 = .59$.

In order to ascertain the effect of the manipulation of reward interdependence on levels of interaction between team members, we conducted a one-way ANOVA on the amount of communication among the team members. Teams working under high reward interdependence communicated significantly more ($M = 5.02$, $SD = 0.40$) than teams under low reward interdependence ($M = 4.35$, $SD = 0.69$), $F(1, 54) = 20.28$, $p < .001$, $\eta^2 = .27$.

Table 1
Means (M), standard deviations (SD), and intercorrelations among variables.

Variable	*M*	*SD*	1	2	3	4	5	6
Control variables								
1. Gender[a]	.40	.49						
2. Computer skills	5.19	1.09	.29**			.		
3. Computer mouse skills	5.90	.97	.20**	.60**				
Independent and dependent variables								
4. Narcissism[b]	.53	.50	.24**	.10	.08			
5. Individual performance	229.66	40.76	.11	.15*	−.01	.00		
6. Leadership emergence	.70	.83	.12	.09	.06	.16*	−.01	
7. Reward interdependence[c]	.49	.50	−.10	−.07	−.07	−.01	−.03	−.05

Note. $N = 221$.
[a] 1 — male, 0 — female.
[b] 1 — high narcissists, 0 — low narcissists.
[c] 1 — low, 0 — high.
** $p < .01$.
* $p < .05$.

6.2. Tests of hypotheses

Hypothesis 1 which stipulated that narcissism would be linked to leadership emergence, was tested by conducting an ANOVA (cf. Bushman, Bonacci, van Dijk, & Baumeister, 2003) in which we controlled for gender. A median split was used to identify high versus low narcissists. High narcissists emerged as leaders more often, and thus received a higher leader emergence score, ($M = .83$, $SD = .90$) than low narcissists ($M = .56$, $SD = .72$), $F(1, 216) = 4.58$, $p < .05$, $\eta^2 = .02$. This confirms the main effect of narcissism on leadership emergence. When controlling for group membership, the results remained significant, $F(1, 215) = 4.78$, $p < .05$, $\eta^2 = .02$.

In order to further examine team processes in which high, as opposed to low, narcissistic individuals emerged as leaders, we conducted 2×2 ANOVAs on team member's perception of communication and individual decision-making, respectively. From here on we will refer to teams in which high narcissistic individuals emerged as leaders as those with a high narcissistic leader, versus a low narcissistic leader. We found a main effect of the leader's narcissism on team communication, $F(1, 52) = 7.00$, $p = .01$, $\eta^2 = .12$. Inspection of means revealed that groups with a high narcissistic leader reported being less verbal and communicative ($M = 4.49$, $SD = 0.67$) than groups with a low narcissistic leader ($M = 4.91$, $SD = 0.57$). Furthermore, results showed that teams with a higher narcissistic leader experienced lower individual decision making ($M = 3.35$, $SD = 0.91$) than teams with a low narcissistic leader ($M = 3.81$, $SD = 0.61$), $F(1, 54) = 4.87$, $p < .05$, $\eta^2 = .08$.

These findings could be attributed to the fact that narcissistic individuals are much more dominant and authoritative (Rosenthal & Pittinsky, 2006) and as such would take control of group decision making. This would have the effect of taking away decision making opportunities from other team members, which would explain our findings. Taken together with the fact that team members reported being less verbal, this suggests that narcissistic individuals took the lead and thereby decreased interaction and also members' individual decision making.

Hypothesis 2 proposed that high narcissists would more likely emerge as leaders in a high rather than a low interdependence context. This hypothesis was tested using a 2×2 ANOVA predicting leader emergence. Gender was entered as a control variable. The results showed that beyond the significant main effect of narcissism on leadership emergence, there was no significant interaction of narcissism with reward interdependence, $F(1, 216) = .09$, *ns*. The means are reported in Table 2. Hypothesis 2 was, therefore, not confirmed. In other words narcissistic individuals were more likely to be chosen as leaders by their group members regardless of whether they were in a high or low reward interdependence setting. It is, however, interesting to note that the effect of narcissism in a high reward interdependence setting was in the expected direction. High narcissists under high reward interdependence had a higher leader emergence score than under low reward interdependence. When we also controlled for individual performance in addition to gender, the results showed that the relationship between narcissism and leadership emergence remained significant $F(1, 215) = 4.53$, $p < .05$, $\eta^2 = .02$. This illustrates that narcissistic individuals emerged as leaders above and beyond the influence of their individual performance.

Hypothesis 3. To test our hypothesis that individuals high in narcissism will perform better in a high rather than a low reward interdependence context we conducted a 2×2 ANOVA on the individual performance score. Gender, computer skills and computer mouse skills were controlled for. No main effects were found, so narcissism, by itself, was unrelated to individual performance. The results showed a significant two-way interaction between narcissism and reward interdependence, $F(1, 214) = 5.97$, $p < .05$, $\eta^2 = .03$. When controlling for group membership, the results remained significant, $F(1, 213) = 5.56$, $p < .05$, $\eta^2 = .03$. This interaction is plotted in Fig. 2. Results from moderated regression analysis, treating narcissism as a continuous variable, yielded the same pattern of results.

Simple effects analysis revealed that high narcissists performed significantly better under high, rather than low reward interdependence ($M_{high} = 237.73$ vs. $M_{low} = 220.90$, $SDs = 36.42$ vs. 41.36), $F(1, 220) = 4.55$, $p < .05$, $\eta^2 = .02$, whereas no significant difference was found between the two conditions for low narcissists ($M_{high} = 224.48$ vs. $M_{low} = 234.74$, $SDs = 43.33$ vs. 40.30), $F(1, 220) = 1.87$, *ns*. These results are summarized in Table 3. Thus, high narcissists under high reward interdependence scored, on average, 16.83 points higher than under low reward interdependence. Hypothesis 3 was, thus confirmed.

As a side note, there were no significant differences found on the performance of high and low narcissists under high reward interdependence ($M_{high\ NPI} = 237.73$ vs. $M_{low\ NPI} = 224.48$, $SDs = 36.42$ vs. 43.33), $F(1, 220) = 3$, $p = .085$, or under low reward interdependence ($M_{high\ NPI} = 220.90$ vs. $M_{low\ NPI} = 234.74$, $SDs = 41.36$ vs. 40.30), $F(1, 220) = 3.05$, $p = .082$. This is likely due to the relatively high variances in the scores.

Table 2
Means (M), standard deviations (SD) of leader emergence of high and low narcissists.

	Reward interdependence			
	High		Low	
	M	*SD*	*M*	*SD*
High narcissism	$.90_a$	1.00	$.76_{ac}$	.82
Low narcissism	$.58_b$	.71	$.53_{bc}$	.74

Note. $N = 221$. Means not sharing a subscript differ at $p < .05$.

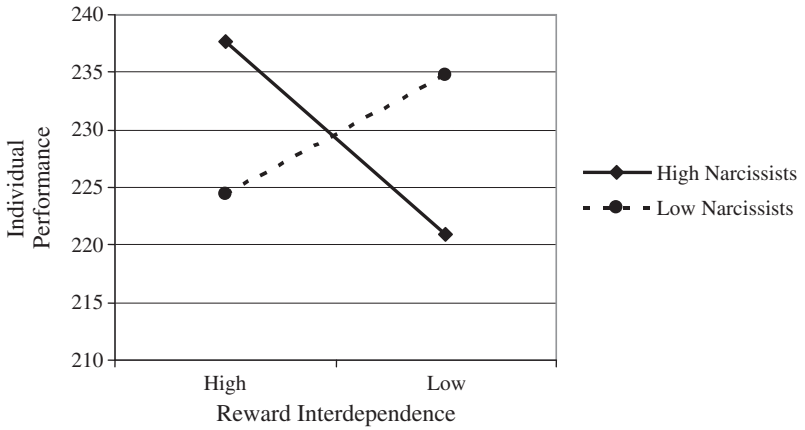

Fig. 2. Interactive effects of reward interdependence and narcissism on individual performance. High narcissists and low narcissists were separated using a median split.

In order to further explore the effect of narcissistic leadership on team level processes we conducted a 2 (narcissistic leadership: high vs low) × 2 (reward interdependence: high vs low) ANOVA on the information transfer by team members. The results showed a significant two-way interaction between narcissistic leadership and reward interdependence, $F(1, 52) = 10.75$, $p < .01$, $\eta^2 = .17$. Simple effects analysis revealed that teams with a high narcissistic leader transferred more (non-verbal) information under high, rather than low reward interdependence ($M_{high} = 13.20$ vs. $M_{low} = 7.25$, $SDs = 5.96$ vs. 4.83), $F(1, 53) = 10.00$, $p < .01$, $\eta^2 = .16$, whereas no significant difference on information transfer was found between the two conditions for low narcissists, $F(1, 53) = 2.34$, *ns*. We additionally conducted a 2 (narcissistic leadership: high vs low) × 2 (reward interdependence: high vs low) ANOVA on team member assistance. The results likewise showed a significant two-way interaction between narcissistic leadership and reward interdependence, $F(1, 52) = 6.64$, $p < .05$, $\eta^2 = .11$. Simple effects analysis revealed that teams with a high narcissistic leader assisted each other more under high, rather than low reward interdependence ($M_{high} = 1.61$ vs. $M_{low} = .72$, $SDs = 0.72$ vs. 0.44), $F(1, 53) = 11.84$, $p < .01$, $\eta^2 = .18$, whereas no significant difference on team member assistance was found between the two conditions for low narcissistic leaders, $F(1, 53) = 0.04$, *ns*.

All in all, under high reward interdependence, narcissistic individuals performed better, and the teams in which narcissists emerged as leaders showed more coordination in that they transferred information and team members assisted each other.

7. Discussion and implications

This is the first study that examined leader emergence and performance of narcissistic individuals in an interactive team setting, while manipulating the context. Our purpose was to investigate whether the leadership emergence of narcissistic individuals as well as their performance depends on specific interactive group contexts. We, therefore, looked at whether leadership emergence and performance were influenced by the team's high versus low reward interdependence, since narcissistic individuals appear to shine in highly interactive social settings and reward interdependence tends to strengthen interaction between individuals.

With respect to our expectations regarding the link between narcissism and leadership emergence, we found that narcissistic individuals emerged as leaders irrespective of the context. Therefore, our supposition that narcissistic individuals will more likely emerge as leaders in a high reward interdependence context was not supported. Even though not significant, there was an indication that high narcissists received slightly higher scores in the context of high rather than low reward interdependence, so the relationship was in the expected direction. It has been suggested that one of the contextual factors that might be important to the emergence of narcissistic leaders is the state of crisis or non-crisis in an organization (Rosenthal & Pittinsky, 2006). The DDD task utilized in this study has been found to simulate a realistic team decision making context in which the team members must make decisions under time pressure and threat (Porter et al., 2003). In view of the fact that the task itself evokes a high pressure

Table 3
Means (M), standard deviations (SD) of individual performance for narcissism and reward interdependence.

	Reward interdependence			
	High		Low	
	M	*SD*	*M*	*SD*
High narcissism	237.73_{b}	36.42	220.90_{ac}	41.36
Low narcissism	224.48_{bc}	43.33	234.74_{bc}	40.30

Note. $N = 221$. Means not sharing a subscript differ at $p < .05$.

stress situation this could explain the reason why narcissistic individuals emerged as leaders across both of the conditions, and irrespective of reward interdependence.

These findings are, nonetheless, interesting because the appeal of narcissistic traits as leadership worthy seems to prevail even in instances where they are less dependent on other team members, as in the low reward interdependence condition. It was also found that narcissistic individuals emerged as leaders even when individual performance was taken into account, which indicates that the allure of a narcissistic leader prevails despite their performance. This lends support to the extant research on narcissistic leadership (e.g., Brunell et al., 2008) that these individuals do indeed appear to possess certain characteristics that are aligned with the prototypical leader.

Furthermore, we found that teams in which a narcissistic individual emerged as a leader, reported being less verbal and having less individual decision-making. This could be an indication of the narcissist's dominance and authoritativeness (Rosenthal & Pittinsky, 2006), as a narcissistic leader would strive to take over the decision making and direct the discussion on the account of their high need for power (Emmons, 1989). It is also consistent with their exhibitionism as the attention of the team appears to have become more centralized when a narcissistic individual emerges as a leader. Consequently, the team members felt that they were being less verbal and made fewer individual decisions. These findings can be related to research on production blocking that has been found to occur in groups. It was shown that when one person dominates the discussion, others are inhibited from sharing information and ideas (Nijstad & Stroebe, 2006; Nijstad, Stroebe, & Lodewijkx, 2003). Our findings are interesting as they point to the presence of narcissists' leader like behaviors.

Additional analyses examining team level processes revealed that teams in which a high narcissist emerged as a leader, transferred more non-verbal information between the individual team members as well as engaged in greater team member assistance, specifically under high reward interdependence. Both of these team process variables are examples of coordination, with the aim of getting the right member in the right place at the right time. The fact that teams who end up choosing a high narcissistic leader appear to have greater coordination in the team, under high reward interdependence, suggests that context is very important for narcissistic leaders. The results show that team coordination increases under high reward interdependence in instances when a narcissistic individual emerges as a leader of the team. Narcissistic leaders appear to become more activated under this context and stimulate greater coordination. This is consistent with the results found at the individual level where narcissistic individuals performed better under conditions of high reward interdependence. The context is important both for the narcissistic individual as well as leadership behavior.

Insofar as narcissistic performance is concerned, the results of our study indicate that it does indeed appear to be contextually dependent, as in line with our expectations. High narcissists performed better in the high rather than low reward interdependence setting. This suggests that the higher level of reward interdependence creates a context which complements the narcissistic personality and compels a narcissistic individual to perform better. This could be due to several reasons. Firstly, it has been shown that high reward interdependence strengthens cooperation and interaction between group members (Wageman, 1995). Thus, enhanced visibility in the highly interdependent setting may trigger in the narcissist a desire to show themselves as superior to others. The context presents narcissistic individuals with an opportunity for self-enhancement in greater view of others and to bask in the limelight, which is consistent with prior findings by Wallace and Baumeister (2002). However, our study is the first to show this phenomenon in an interactive team setting. Secondly, narcissists are highly exhibitionistic (Buss & Chiodo, 1991) and a high reward interdependent context will be more likely to prompt their need to garner attention, perhaps via superior performance in the task. Thirdly, stemming from their underlying need for power and dominance, the interdependent context provides them with greater opportunity to try and influence others. This in turn may energize them to perform better than in a low reward interdependence setting, where exerting power over others will be more difficult due to lower incentives for team members to cooperate with one another and thereby lower interaction. Finally, the high reward interdependence context will engender greater affiliation within the group and as such may create a fusion between the individual narcissist and the group itself as a result of intergroup ethnocentrism. Thus, the group is then perceived as an extension of the narcissistic person, and group success equates to individual success, particularly in instances where the individual had influence and control over group processes — driven by their underlying power motive. They may perceive the situation as one in which they need to assert themselves and drive the group to success because if they do well the victory shall taste that much more sweeter if they were at the helm of the ship.

Consequently, support for the alternative hypothesis concerning a negative effect of narcissism on individual performance, particularly in a high reward interdependent setting was not found. This suggests that narcissists' preoccupation with exhibiting their superiority and competencies to others did not hamper their performance and did not curtail their task focus. Group reward structure seemed to have led to improved performance. Thus, individual rewards may not have a large impact on narcissistic performance because it is merely self-referential feedback. Narcissistic individuals do not tend to exhibit superior performance with this type of feedback as they are overconfident in their own abilities and merely seek to exhibit these abilities to the external world (Wallace & Baumeister, 2002).

Hence, the above suggests that frequent interactions do not seem to represent a threat of rejection for narcissistic individuals but rather than an opportunity for shining. This is in line with prior research which found that narcissistic individuals often have a high approach and low avoidance motivation and appear to be fuelled primarily by the prospective rewards (Foster & Trimm, 2008). They appear to be pursuing a maximal gain strategy, aimed at capitalizing on success, no matter how risky (Morf & Rhodewalt, 2001). Thus, even though it may appear paradoxical, narcissistic individuals would risk frequent interactions to create opportunities for self enhancement. There is evidence that narcissists are more focused on assertive self-promoting behavior, at the risk of greater loss or threat in the event of failure or rejection (Morf & Rhodewalt, 2001). Narcissists often report

unrealistically optimistic beliefs about their abilities and prospects for success (e.g., Gabriel et al., 1994; Paulhus, Harms, Bruce, & Lysy, 2003; Watson et al., 1991). Thus, it could be argued that it is particularly due to these beliefs that they do not enter social situations thinking about potential failure that such an interaction may generate but they deem them to be arenas for self enhancement.

7.1. Practical implications

With so many of the current leaders thought to exhibit narcissistic characteristics and with examples of narcissistic leaders in our historical past (Deluga, 1997; Rosenthal & Pittinsky, 2006), it is important to further explore the reasons for, and contexts within which narcissistic individuals emerge as leaders and are effective. To date, little is known about the underlying processes influencing the effectiveness of a narcissistic leader, or indeed whether they are more effective. It is particularly important to discern which situations elicit positive behavior from narcissistic leaders and lead to optimal outcomes for the performance of organizations. In particular situations a narcissistic leader may be maladaptive due to their negative characteristics such as exploitativeness, hypersensitivity to criticism, lack of empathy, sense of entitlement and arrogance. Since there is a prevalence of narcissistic individuals in leadership positions, it is important to unearth the situations in which the positive aspects of narcissistic leaders might outshine their negative personality attributes. Particular contexts, for example, may promote superior individual performance and collaborative coordination among followers.

This research has several practical implications. The findings of our study suggest that narcissistic people are more sensitive to the context in which they operate than non-narcissistic ones. Where the goals of the team are aligned with the goals of the individual, thus creating goal congruence, narcissistic people will perform well. In the context of high reward interdependence it will be in the narcissist's own interest to further the goals of the team, since the two are highly intertwined. Therefore, in order to enhance the performance of narcissistic individuals in the workplace, such employees ought to be placed in groups with high reward interdependence as they would be motivated to perform better. In groups where narcissistic individuals experience low reward interdependence their performance may suffer. On a more general level, a notable implication would be that narcissistic individuals ought to be placed in organizational situations where there is a high level of interaction as they appear to perform well in a highly social context. However, for future research it is also important to study the timeframe under which this effect occurs. For example, do narcissistic individuals continue to exhibit superior performance in prolonged interactions? It would also be interesting to see what happens when the team has to deal with drawbacks or bad performance.

Next, the results of this study suggest that the perceived suitability of the narcissistic individual as a leader surpasses their individual performance. This shows that other employees perceive narcissistic leaders to have leadership qualities even though this does not necessarily reside in their performance. Hence, narcissistic individuals seem to have a greater chance to reach leadership positions. For this reason, it is useful to understand which context actually allows them to be more effective. We found that a context in which they are immersed in an interactive group, working towards a common goal, enhances their performance. Organizations ought to ensure that their incentive schemes for narcissistic leaders particularly highlight the goal alignment of their interests with the interests of the organization. Since one of the core dynamics of a narcissistic individual includes idealization (McWilliams, 1994), a stronger identification with the organization and its goals would ensure that the narcissistic leader's identity became suffused with that of the organization. As a result, it would be in their self-interest to ensure the viability of the organization at all costs since the success of the organization would equate with personal success. An organization could include the measure of narcissism in their routine assessments during personnel selection and also in their developmental programs. As a result they would be cognizant of the fact that they have a narcissistic leader in their midst and, in turn, would be able to allocate such individuals to particular organizational contexts that meet their underlying need for self-enhancement. However, this need to self enhance should be adequately harnessed to ensure it is also aligned with the interests of the organization.

7.2. Limitations and strengths

Although the present study enhances our understanding of narcissistic leadership emergence and narcissistic performance, it has some potential limitations. Firstly, the study is subject to the usual limitations of any experimental research in that there are issues of generalizability because of the use of a student sample in a laboratory setting, and the specific task (military task) being utilized. It has been argued that tasks such as the DDD task tend to diminish the gap between field and laboratory research by allowing for high levels of mundane realism without sacrificing experimental rigor (Humphrey, Hollenbeck, Ilgen, & Moon, 2004). Prior research has shown that participants who engage in the DDD task do find their task psychologically engaging (Porter et al., 2003). Moreover, they are aware of the financial bonuses that can be achieved by performing well during the task and realize that consequences associated with performance matter to them. Therefore, strength of the present study is that high “psychological realism” was achieved during the experiment (Berkowitz & Donnerstein, 1982). Nonetheless, in order to be able to extrapolate the findings into a wider population, future studies should replicate this study in a field setting, with different samples, tasks and contexts. However, one needs to keep the nature of the research question in mind when assessing the relevance of external validity. As there is no reason to think that the theories we utilized to form our hypotheses would fail to hold in the context of our experiment, this context serves as a meaningful venue for testing our hypotheses. We were simply asking the “can it happen” question, which according to Ilgen (1986), is exactly the type of question that bears investigation in this type of a laboratory setting. Furthermore, the estimated correlation between the effect sizes obtained in the field and those obtained in the lab generally exceeds .70 (Anderson, Lindzay, & Bushman, 1999), which suggests that experimental findings do appear to reflect those

in the field. It should be noted that the experimental design utilized in this study has a major advantage over a field setting in that we were able to randomly assign individuals to a particular reward context. This would be difficult to accomplish in the field since narcissists would most likely self-select themselves into contexts where they have the greatest opportunities for self enhancement and where their visibility would be most evident.

A second limitation is due to the fact that this is an examination of a one-off interaction between individuals, albeit quite a lengthy one as the entire experiment lasted three hours and, thus the participants would have had relatively long face to face contact time. Generally, it has been found that narcissistic individuals make very positive first impressions and that these impressions wane over time (Paulhus, 1998). However, the deterioration of the positive impression that others have of a narcissistic individual appear to be isolated to communal features, such as warmth and kindness, and these features are not prominent characteristics associated with leader emergence. People continue to perceive the narcissistic individual as high on agentic traits such as intelligence and confidence (Paulhus, 1998), which are the primary characteristics associated with leader emergence (Smith & Foti, 1998).

Finally, it needs to be noted that despite the interesting significant results found in this study, the magnitude of the effects for our hypotheses were relatively small as defined by Cohen (1988). Nonetheless, this does not detract from the importance of the effects that were found in our study as small effect sizes can have considerable consequences (cf. Prentice & Miller, 1992).

One of the main strengths of our study is that it reduces the problem of common method bias as the dependent variable of performance and some of the process variables constitute automatic output from the interactive simulation task, and are in no way related to the questionnaires that the participants completed to measure the independent and other process variables. Another strength stems from the length of the experiment as the participants interacted face-to-face for three hours, which might somewhat lessen the potential effect of positive first impression that a one off social interaction with narcissistic individuals usually entails and allow the setting to better reflect a real world group interaction.

7.3. Future directions

The possibilities for future research in this area are numerous as it would be interesting to further elucidate the reasons as to why narcissistic individuals are chosen as leaders, and identify the perceptions of other team members as to their specific choice of a leader. It would also be interesting to see whether narcissists emerge as leaders even in situations when they are perceived to perform suboptimal, i.e. whether their leader-like qualities shine through despite their performance. The DDD task which was utilized in this study did not provide opportunities for individual team members to observe each other's individual performance in great detail. As such it was not surprising that we found individual performance not to have an effect on leader emergence. It would also be interesting to identify personality characteristics of the followers who chose a narcissistic leader.

Another interesting question would be to clarify how other people in a team are affected by the presence of a narcissist. For example, does it lead to greater intra-group conflict as narcissistic individuals attempt to make their claim upon leadership of the group, being driven by their underlying power and dominance orientations? Narcissistic individuals also believe themselves to be worthy of leadership and as such feel that they are naturally entitled to this position.

Future studies could examine the leadership behaviors and performances of narcissistic people when leadership roles in the team are a priori assigned. This situation may better reflect the types of teams that operate in the daily reality of organizations where teams work under the supervision of a team leader who is responsible for the team coordination. Do highly interdependent teams in coordinate their activities better under high rather than low narcissistic team leaders? This question could be studied experimentally but also in the field in order to enhance the external validity of the study findings.

Furthermore, future research could explore other contextual factors that would likely improve the performance and leadership behaviors of narcissistic individuals. It has been suggested that narcissistic type leaders are often historically bound and intimately connected to crises (Rosenthal & Pittinsky, 2006). So perhaps in a stable environment a narcissistic leader may appear out of place, due to the inadequate opportunities for self-enhancement since they are not required to enact radical change but rather maintain the stability of the status quo. On the other hand, narcissists might rise to the challenge in times of pressure or crises, a situation in which they will be energized and thus perform well.

To conclude, narcissists do appear to shine when they are immersed in the limelight of an interdependent setting and when they can be at the helm of a ship while it sails into the port of victory. All they need is a stage upon which they can perform and exhibit their leadership characteristics, and then they will engage and come out on top. Narcissistic individuals continue to intrigue us, and as such we keep them on the stage fervently asking for an encore.

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