

Error affect inoculation for a complex decision-making task

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Individuals bring knowledge, implicit theories, and goal orientations to group meetings. Group decisions arise out of the exchange of these orientations. This research explores how a trainee's exploratory and deliberate process (an incremental theory and learning goal orientation) impacts the effectiveness of individual and group decision-making processes. The effectiveness of this training program is compared with another program that included error affect inoculation (EAI). Subjects were 40 Spanish Policemen in a training course. They were distributed in two training conditions for an individual and group decision-making task. In one condition, individuals received the Self-Guided Exploration plus Deliberation Process instructions, which emphasised exploring the options and testing hypotheses. In the other condition, individuals also received instructions based on Error Affect Inoculation (EAI), which emphasised positive affective reactions to errors and mistakes when making decisions. Results show that the quality of decisions increases when the groups share their reasoning. The AIE intervention promotes sharing information, flexibilizing initial viewpoints, and improving the quality of group decisions. Implications and future directions are discussed.

Inoculación de afecto sobre los errores para la toma de decisiones complejas. Los individuos parten de conocimientos, teorías implícitas y orientaciones de metas al trabajar en grupos. Tomar decisiones grupales requiere compartir creencias previas. Este estudio analiza cómo un proceso exploratorio y deliberativo en la formación (basado en teorías implícitas adquiribles y orientación de metas hacia el aprendizaje) influye en la efectividad de procesos de toma de decisiones individuales y grupales. La efectividad de este programa de formación es comparada con otro programa que incluye Inoculación de Afecto sobre los Errores (IAE). Participan en esta investigación 40 inspectores de policía en formación. Los inspectores fueron asignados a una condición de formación para una tarea de toma de decisiones individual-grupal. En una condición, los participantes reciben instrucciones que enfatizan realizar una exploración de la información junto al proceso deliberativo para contrastar hipótesis. En otra condición, los participantes reciben además instrucciones basadas en IAE que enfatizan las reacciones afectivas positivas ante los posibles errores que se desencadenan al tomar decisiones. Los resultados muestran que las decisiones mejoran cuando los grupos comparten sus razonamientos. La formación IAE fomenta compartir información haciendo más flexibles los posicionamientos iniciales y mejorando las decisiones grupales. Finalmente, se discuten las implicaciones y la dirección para futuras investigaciones.

Once the effects of incremental skill conception of ability and the associated learning goal orientations had been analysed, it has been suggested that they should be incorporated into the design and implementation of training programs (Epitropaki & Martin, 2004; Heslin, Latham, & VandeWalle, 2005; Kray & Haselhuhn, 2007). Previous research had show that implicit theories of ability influence on self-regulatory mechanisms as affective reactions that, in turn, predict the performance (Briones & Taberero, 2005; Briones, Taberero, & Arenas, 2007; Morera & Rodríguez, 1994; Taberero & Wood, 1999; Tamir, John, Srivasteva, & Gross,

2007). The present research explores the effect of affect induction training on an individual and group decision making process. How a trainee's exploratory and deliberate process, an incremental conception of ability and learning goal orientation, impacts the effectiveness of individual and group decision making processes. A training program is designed to encourage affect inoculated on errors across the process of decision making.

Incremental skill theory and learning goal orientation

Dweck and her colleagues have identified two alternative implicit theories of ability, and a great deal of research has now demonstrated that these fixed entity and incremental skill theories of ability produce different motivational and behavioural responses (Dweck, 1996; Heslin et al., 2005; Kray & Haselhuhn, 2007; Taberero & Wood, 1999; Tamir et al., 2007). Entity theorists, who believe that ability is a fixed capacity, are more likely to adopt a goal to prove themselves as competent at the task

and, by implication, a competent person. Incremental theorists, who believe that ability is an acquirable skill, are more likely to adopt a goal to understand the situation and master the task. They are less concerned about the evaluative implications of feedback, particularly failure, and they accept challenges as a means of improving their skills, which they believe are malleable (Dweck, 1996).

There is also evidence that the beliefs, which construe ability as either an acquirable skill or a fixed entity for a given task, can have either personal or situational origins (Dweck, 1996). Dweck argues that an individual's dispositional theory of ability provides a default orientation under which the individual tends to behave. However, there is also evidence that the social construal of beliefs about ability in a situation influences motivational and behavioural responses (Tabernero & Wood, 1999). The social construal of ability beliefs may be communicated to an individual either directly, through the comments of supervisors and colleagues, task instructions and appraisals, or indirectly, through rewards and promotions. Studies of the social construal of ability beliefs have included measures of situational demands for performance versus learning orientations (Heslin et al., 2005) and experimental manipulations of conceptions of ability (Tabernero & Wood, 1999).

Therefore, learning goals had a positive effect on quality and quantity of performance. The higher the information-processing demands of the task, the more cognitive resources are required to function competently. When working on a cognitively demanding task, off-task activities can undermine performance by diverting attention from the development of analytic strategies necessary for task performance (Kray & Haselhuhn, 2007; Wood, Bandura, & Bailey, 1990). Concerns about the evaluative consequences of task failure, which are observed with performance goal oriented individuals, are an example of these off-task activities. The impact of affective reactions on performance reveals the vulnerability of those who view performance as indicative of ability when they fail to achieve performance standards on complex tasks. Self-evaluative reactions have proven to be critical to performance on complex task that require strategic thinking and in ways that differ from simpler tasks in which performance is more directly a product of effort levels (Wood, George-Falvy, & Debowski, 2001).

Affect Inoculated on Errors (AIE)

People in a positive or neutral affect state typically perform better on complex tasks, creative problem-solving tasks, demonstrate lower levels of anger and hostility, are more altruistic, optimistic and flexible, and are also more inclined to be helpful (Forgas, Bower, & Moylan, 1990; Hertel & Fiedler, 1994). These mood effects should be especially marked when elaboration, substantive processing is required to deal with a complex, indeterminate task (Regueiro & León, 2003; Simón, 1997). Forgas (1995; 1998; 2007) assumed that affective reactions should exert a mood congruent influence on negotiators' thoughts, expectations, and plans that will eventually influence their negotiating strategies and outcomes. Hertel and Fiedler (1994) also suggested that elated mood may increase behavioral flexibility rather than positivity or cooperation per se. Thus positive mood either may directly affect the level of cooperation, or may indirectly influence negotiation through generating increased cognitive and behavioural flexibility. However, Forgas (1995; 1998; 2007) found as a positive feedback on the mood induction task produced more cooperation rather than

more competition, his result did not support increased assertiveness or increased flexibility as the cause of bargaining differences. Mood-congruent has influenced on post-negotiation reports of bargaining behaviours (Forgas, 1995; 1998; 2007).

The use of targeted error management training techniques (Keith & Frese, 2005; 2008), which encourage trainees to make errors and minimize critical evaluation during the development of skills, may provide the needed conditions for developing the efficacy beliefs and competencies of individuals on a novel and complex task. Error Management Training (EMT) is consistent with cognitive and action theories which argue that errors can increase system of knowledge (Arenas, Tabernero, & Briones, 2006; Keith & Frese, 2005; 2008). By attending to errors and learning error management techniques, trainees may arrive at a deeper understanding of the system than would otherwise be possible. The goal of this strategy is to reduce future errors, avoid negative error consequences and quickly deal with error consequences as they occur (Keith & Frese, 2005; 2008). This is partly achieved through making a fundamental distinction between the action of making an error and the negative error consequences. In this distinction the difference between the two approaches becomes clear: error prevention aims to reduce the number of error actions while error management focuses more on creating a barrier between the error and the negative consequences.

In our research, the focus is to explore the effect of this exploratory training with a positive vision of errors as a mechanism of learning in the decision making process, it is not an induction to make errors. More specifically how individuals in an affect inoculated on error condition confront a situation of group decision making when they had previous specific opinions. Error management training also promotes an active, exploratory approach to learning (Keith & Frese, 2005; 2008). Trying out new ideas, learning from experiences, and exerting control over the learning process are all encouraged (Keith & Frese, 2005; 2008). Trainees are encouraged to develop hypotheses and mental models of the complex decision making. On complex and novel tasks, mistakes and setbacks are an inevitable part of the learning process as individuals or groups test different options in their attempts to discover strategies that work. Our research assumed that learning goals seem very consistent with error management training principles.

In summary, the objective of this study was to investigate the impact of self-guided exploration-deliberation process induction and affect inoculation on errors induction on performance in an individual and group complex task, and subsequent the impact on affective reactions as intrinsic interest and satisfaction with performance.

Hypothesis: Participants receiving both learning orientation instructions, self-guided exploration-deliberation process and affect inoculation on errors, will show better levels of performance on the decision making task than participants in the self-guided exploration-deliberation process condition. Therefore, these individuals will increase the number of changes of opinions that individual make in the group decision making and will show high levels of intrinsic interest on the task

Method

Participants

Participants were 40 Spanish policeman enrolled in a promotion course at the National Spanish Policeman Academy with an average

age of 27.88 years ($SD= 2.57$). The percentages of males and females were 65% and 35%, respectively. All subjects had all a bachelor degree (72.5% in law sciences). The experiment was conducted as part of the training program in the first month of the course.

Procedure

The task used was the NASA Moon Survival problem (Hall & Watson, 1970, pp. 316-317). The NASA problem requires subjects to rank 15 items according to their importance for survival if wrecked on the moon. The quality of a decision is a simple inverse function of the unit weighted sum of the absolute differences between the ranks assigned by subjects and those preferred by the Crew Equipment Research Unit at NASA. The raw scores can range from zero to 112, with lower scores indicating higher quality decisions. The task was presented to subjects as an exercise in individual and group problem solving. All subjects first solved the problem individually with one of the two specific instructions, and then were assigned randomly to groups to make decision in the same experimental condition than their previous individual performance.

There were 14 groups of size two and four of size three (nine groups in each condition). There were trivial nonsignificant differences in individual and group scores across teams with different membership characteristics. Individuals female and male scores were 47.9 ($SD= 10$) and 45.73 ($SD= 8.9$), respectively. As female were randomly in two conditions, where not differences between male and female at the group scores. Sex group composition did not report any significant differences about quality of group decisions, $t= 1.32$, $df= 16$; $p>.05$). A half group was a mixed composition ($M= 35.11$; $SD= 5.49$) and the other half a homogeneous composition where both members had equal sex ($M= 38.89$; $SD= 6.57$). Participants were first given the «Lost on the Moon» problem individually and allowed 10 minutes to complete the task and 30 minutes for the group discussion. Such times are typical for other studies in which this task is used for research and training (Orpen, 1997).

Design

The study was described as a two-phased investigation of problem solving. The instructions indicated that each participant

would work out their best solution to the problem privately and then negotiate a common solution. After policeman had completed ranking the items of the NASA Moon Survival Problem, indicating the importance of each item for survival on the moon, the participants were randomly in a group where every member had same experimental condition.

Two treatment conditions were given written and verbally to develop an individual and lately a group solution in whatever way they thought appropriate. The same person gave the instructions for both treatment conditions; it was repeated several times across decision-making processes. These were presented as part of task instructions given to participants during their introduction to the decision making task. The manipulations of ability beliefs for the social construal conditions were taken from an earlier study in which they had found to have pronounced effects on self-regulatory processes and performance on another complex decision making task (Taberero & Wood, 1999). The current research extends the findings from these earlier studies by considering impacts of task instructions, which encourage different core processes in an individual versus group decision making task. Instructions were as follows:

1. Self-guided exploration plus deliberation process (SGE + DP). Trainees' goal in training was manipulated using instructions modeled after those used by Taberero & Wood (1999). Trainees were told that their goal in training was to master decision making skills and demonstrate individual improvement. Instructions encouraged trainees to find solutions to the complex decision making problem, and provided trainees with 4 heuristics to help them find the best strategy (see Table 1).
2. SGE + DP + Affect Inoculated on Errors. The instructions were like in the earlier instructions but they were instructed also in an affective reaction to feedback and errors. Instructions provided trainees with another 3 heuristics to help them cope with errors (see Table 1).

Instruments

The affective reaction measures were collected after individuals and groups had finalised their decision but prior to

Table 1
Description of training goal instructions to promote share information in group decision making

Training goal instructions	Heuristics
<p><i>Self-guided exploration + Deliberation Process (SGE + DP)</i> Skills required to manage decision making individually and in work groups are developed through practice. In acquiring new skills, people do not begin with faultless performance in groups decision making. However, the more they practice decision making the more capable they become. This decision-making task provided a vehicle for cultivating cognitive decision making capabilities.</p>	<ul style="list-style-type: none"> - Explore widely - Test Hypothesis - Be systematic - Analyse feedback - Compare results to expectations
<p><i>Affect Inoculated on Errors (SGE + DP + AIE)</i> Skills required to manage decision making individually and in work groups are developed through practice. In acquiring new skills, people do not begin with faultless performance in groups decision making. However, the more they practice decision making the more capable they become. This decision-making task provided a vehicle for cultivating cognitive decision making capabilities.</p>	<ul style="list-style-type: none"> - Explore widely - Test Hypothesis - Be systematic - Put attention to feedback - Compare results to expectations
<p>During training, one should expect to make errors. Errors are a positive part of any learning experience. As a result of making errors, you can learn from your mistakes. So, view differences of opinion with other members as both natural and helpful rather than errors in your decisions. Remember that errors are an essential part of any learning experience. It is expected that when learning a new skill one will make errors. If you make an error -Don't get frustrated! Remember that there is always a way to leave the error situation</p>	<ul style="list-style-type: none"> - Don't worry about errors - Don't get frustrated - We all learn from mistakes

know the NASA ranking. At this phase, decision of their colleagues was the feedback that individuals had on their prior opinions and not the feedback from NASA ranking. Once the experiment had finalised, every member received the NASA ranking and a completed explanation of the objective of this study.

The measure of *task performance* was the sum of the absolute difference between subjects' ranking of the importance for survival of the 15 items in the «Lost on the Moon» problem and the NASA ranking. The best possible score, therefore, on the «Lost on the Moon» task was 0 and the poorest was 112. Individual and group accuracy was calculated. Also both measures permitted calculate the difference between individual and group decision making. Group performance is a function of conflict management behaviours where conflict management is a particular aspect of process. The best individual score in each group (BIS) and average of their individual scores (AIS) was used as an additional indicator of the group resource. Positive conflict generated across affect inoculation on error, which permit individuals share their opinions and change their decision, can be expected had a stronger effect on the quality of their group decisions than group resources.

Intrinsic interest on the task. As in earlier studies using this exercise (Orpen, 1997), most subjects appeared highly involved in the problem solving process. Harackiewicz and Elliot (1993) developed a questionnaire to measure the intrinsic interest on a specific task. It can be measured using a four-item, seven-point scale, ranging from highly disagree to highly agree: «Very interesting activity», «Thought it was a waste of time», «Fun to play» and «Thought this was a boring game». These four items were averaged for a single measure of intrinsic interest on the task and were highly correlated ($\alpha = .89$) and consistent with the reliability that Harackiewicz and Elliot (1993) showed previously ($\alpha = .88$).

Satisfaction with performance was measured using a 3-item, 7-point scale, ranging from highly dissatisfied to highly satisfied: «How satisfied were you with your performance on the task?», «How satisfied were you with your ability to develop the task?» and «If you continue to perform at the same level, how satisfied will you be?» These three items were averaged for a single measure of satisfaction with performance and were highly correlated ($\alpha = .93$).

Goal orientations is conceptualised as a three-factor construct, where a performance goal orientation is defined as both the desire to gain favourable judgements and to desire to avoid unfavourable judgements about one's ability. In contrast, a learning goal orientation is a desire to develop the self by acquiring new skills, mastering new situations and improving one's competence (Button, Mathieu, & Zajac, 1996). Goal orientation was tested using VandeWalle (2001) global trait scales for learning goal orientation versus prove and avoid performance goal orientations. Factor analyses of the goal orientation scale items revealed the three orthogonal factors representing learning ($\alpha = .82$), prove performance ($\alpha = .76$) and avoid performance ($\alpha = .83$) goal orientations found by the author.

Results

Self-guided exploratory versus affect inoculated on errors effect on decision making process

Both individuals and groups received intervention instructions, the effect of the learning goal interventions (SGE and AIE) on the quality of individual and group decisions were examined.

Individual effects. The effect of the learning goal interventions (SGE and AIE) on the quality of individual decisions was examined (Individual score accuracy, ISA). Significant differences were found between the two cohorts, $F_{(1,38)} = 5.11$; $p < .05$ (see Figure 1).

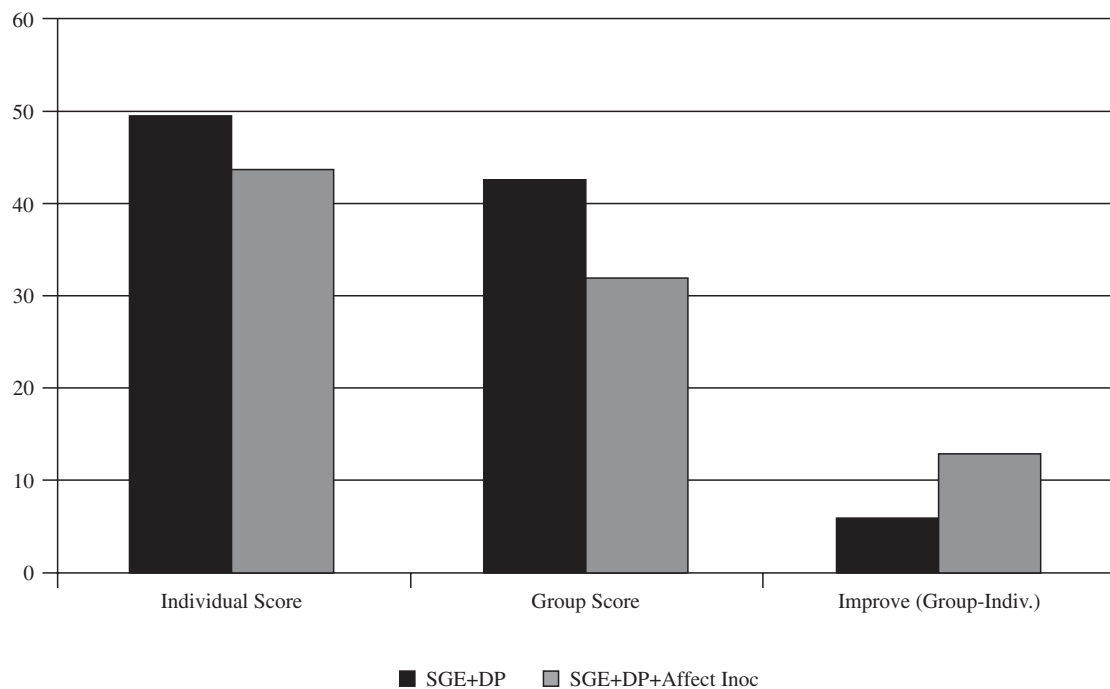


Figure 1. Mean differences on performance between the two experimental training conditions

Group effects. Consequently to the previous result, effect of learning goal instructions (SGE and AIE) must be consistent on the average of individual scores (AIS) for each experimental condition ($M_{SGE}= 49.11, SD= 6.22; M_{AIE}= 43.03; SD= 5.64; t= 2.27; df= 18; p<.05$).

Also a *t* test was used to check the equality of the group resources (i.e., prediscussion ability of group members) across the two experimental conditions (SGE and AIE). The Best Individual Scores (BIS) was used for the indicator of the group resources. No significant differences in the group resources were found between self-guided exploratory and affect inoculated on errors conditions (BIS: $M_{SGE}= 43.0, SD= 9.11; M_{AIE}= 37.78; SD= 4.52; t= 1.54; df= 18; p>.05$).

The effect of the learning goal interventions (SGE and AIE) on the quality of group decisions was examined (Group score accuracy, GSA). Significant differences were found between the two cohorts, $t= 7.03; df= 18; p<.001$ (see Figure 1).

Changes of individual decisions. As most positive conflict can be created in a group decision making more interchange and share of information and better will be the quality of their decision. The effect of the learning goal interventions (SGE and AIE) on the level of changes of individual decisions in the process of group decision making was evaluated. Significant differences were found between the two cohorts, $F_{(1,38)}= 5.80; p<.05$ (see Figure 1).

Effects on affective reactions

Hypothesis predicted that the motivational responses would be influenced by the different learning goal orientation received across the instructions. The effects of the learning goal interventions (SGE and AIE) on satisfaction with performance and intrinsic interest on the task showed were first analyzed in a MANOVA, with the learning goal interventions as between

subjects factors. Individual score accuracy was included as a covariate to ensure that any observed differences in motivational patterns were not solely attributable to prior performance.

With both motivational variables included in the MANOVA, learning goal orientations instructions had a main effect on the response patterns of participants after finalised their group decision making but prior to know the NASA ranking, $F_{(2,37)}= 6.51, p<.01$, as predicted. Univariate F tests did show effects for the individual motivational variables. Following group decisions, individuals which received a self-guided exploration and deliberation process plus an affect inoculated on errors instructions had marginal higher levels of intrinsic interest on the task, $F_{(1,38)}= 3.31, p<.10$, and were significant lower satisfied with the ability show in previous decision, $F_{(1,38)}= 4.88, p<.05$, than those individuals which received a self-guided exploration and deliberation process instruction, as predicted (see Figure 2).

Effects of instructions received on goal orientations reported

Hypothesis predicted that training instructions on incremental conceptions of ability or learning goal orientation communicated to participants will influence individual goal orientation, such that people in affect inoculation on errors will show lowest levels of avoid performance goal orientation than participants in self-guided exploration-deliberation process condition. All three motivational variables included in the MANOVA, learning goal orientations instructions had not a main effect on the response patterns of participants after finalised their group decision making, $F_{(3,36)}= 0.65, ns$. Univariate F tests did not show effects for the individual motivational variables. Following group decisions, individuals which received a self-guided exploration and deliberation process plus an affect inoculated on errors instructions reported similar levels of learning goal, $F_{(1,38)}= 0.60, ns$, prove performance goal,

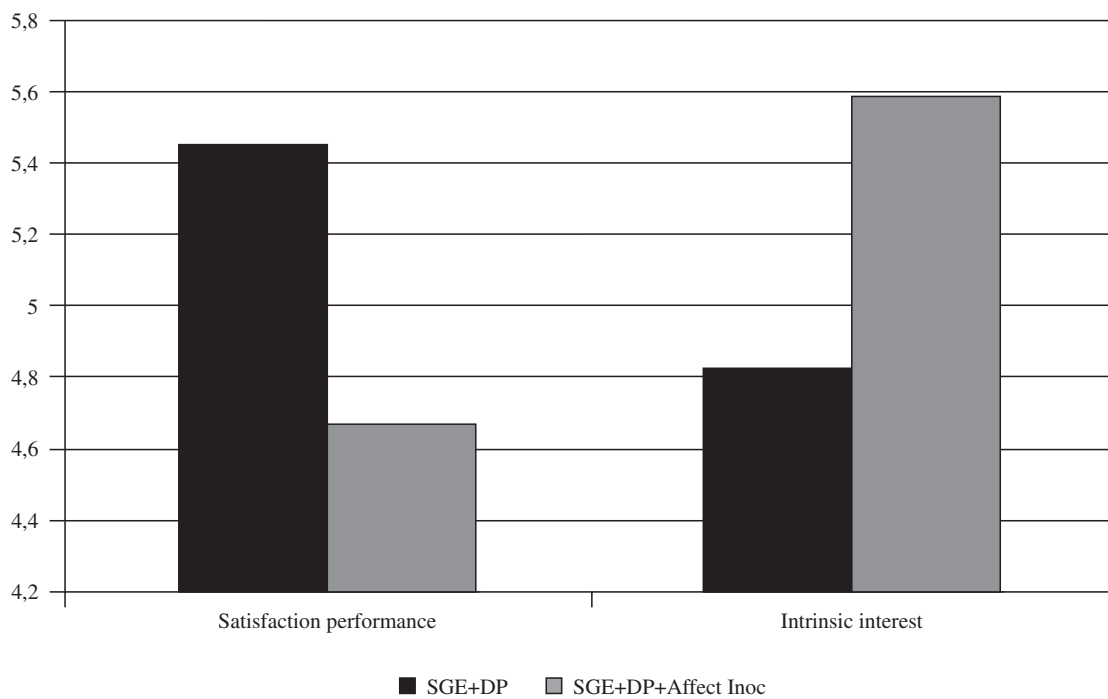


Figure 2. Mean differences on affective reactions between the two experimental training conditions

$F_{(1,38)} = 1.67$, *ns*, and avoid performance goal orientation, $F_{(1,38)} = 0.03$, *ns*, than those individuals which received a self-guided exploration and deliberation process instruction.

As this research assumed that learning goals seem very consistent with error management training principles, it would be the explanation because the different instructions received did not effect to the goal orientations reported. A comparison with another sample it would permit us to contrast influences of learning goal orientations communicated to participants in the instructions with a control group. Students from a Spanish University ($n = 149$) with an average age of 19.59 years ($SD = 1.75$) performed the same task without instructions. Once students finalised the task, individual and group decision making, they completed a questionnaire with same items that the actual sample about their goal orientation: learning goal ($\alpha = .81$), prove performance ($\alpha = .64$) and avoid performance ($\alpha = .76$) goal orientations.

The goal orientations reported would be influenced by the learning goal orientation received in front with not instructions (control group). The effects of the learning goal interventions on learning goals, prove performance goals and avoid performance goals were first analyzed in a MANOVA, with the origin of the sample as between subjects factors (learning goal induced versus control).

All three motivational variables included in the MANOVA, instructions had a main effect on the response patterns of participants after finalised their group decision making, $F_{(3,186)} = 7.99$, $p < .001$. Univariate F tests did show effects for the individual motivational variables. Following group decisions, individuals which received learning goal orientation instructions reported higher levels of learning goal orientations, $F_{(1,188)} = 12.99$, $p < .001$, similar level of prove performance goal orientations, $F_{(1,188)} = 0.10$, *ns*, and showed lower levels of avoid performance goal orientations, $F_{(1,188)} = 17.41$, $p < .001$, than those individuals did not received learning goal orientation instructions (see Figure 3).

Determinants of the quality of group decision

A regression analysis was used to examine the relative magnitude of the influence of the individual motivational responses on group effectiveness. Satisfaction ($B = .40$) and previous individual scores ($B = .34$) had a significant effect to explain the quality of group decision ($R^2_{adj} = .25$, $F_{(3,36)} = 5.34$, $p < .05$) where intrinsic interest showed a marginal effect ($B = -.25$).

Discussion

As in earlier studies using same decision making task most subjects appeared highly involved and interested in the problem solving process (e.g., Hall & Watson, 1970) and evidence of mood linkage in work groups has been shown (Totterdell, Kellett, Teuchmann, & Briner, 1998). Results showed that learning goal orientations and affect inoculation on errors induced have an effect on individual and group decision making. It was found that (1) Intrinsic interest in the task was higher for the AIE individuals, (2) Satisfaction with performance was higher for participants in the self-guide exploration (they understand the performance as an evaluation of their individual decisions in contrast with group decisions) therefore, (3) Self-exploratory individuals did less changes in their previous decision when they are in the group processes, and (4) participants in an AIE intervention showed better scores in both phases of decision making, individual and group.

In experimental studies, the construal of ability as either an acquirable skill or a fixed entity through task instructions has influenced self-regulatory and behavioural responses on problem solving and decision making task (Tabernero & Wood, 1999). A person's implicit theory of ability is the underlying disposition, which influences their goal orientations plus other cognitive and affective process to situations. Learning goals led to superior

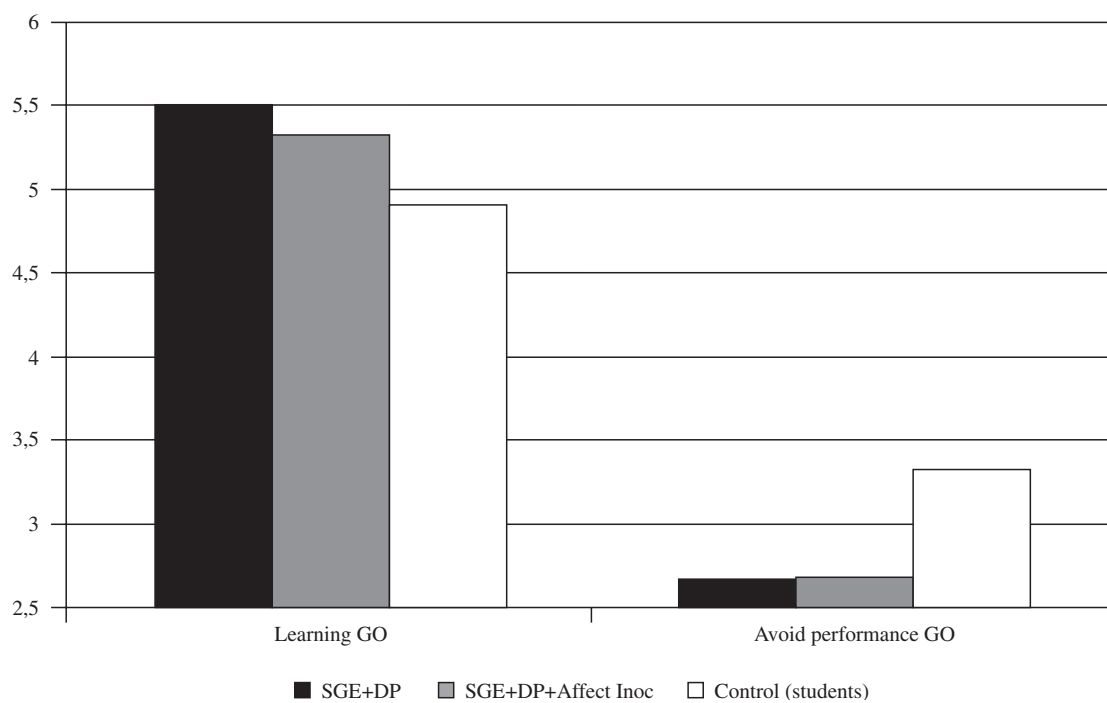


Figure 3. Mean differences on implicit theories between the two experimental training conditions and a control group

performance in the complex task condition but inferior performance in the simple task condition (Winters & Latham, 1996). Further evidence of task complexity functioning as a moderator of a learning goal advantage was found (Utman, 1997), where rated complexity of the tasks increased the learning goal advantage also increased. The social conceptions of ability communicated to participants have been found to influence motivation and performance. Ames and Archer (1988), for example, found that perceptions of the learning and performance dimensions of classroom goal structures «emphasised by teachers» were related to student motivational patterns.

Results showed that affect inoculated into thinking and judgements is most likely when people adopt an open, constructive processing strategy, such as incremental theorists about conception of ability or learning goal orientations which can be implemented across a systematic or substantive processing or heuristic processing. In contrast, affect inoculated is unlikely when individuals use a targeted, predetermined information search strategy, such as fixed entity theorists about conception of ability or performance goal orientations which can be implemented across a direct access of stored information or motivated processing in the service of specific goals. Affect infusion can account for much of the available empirical evidence on mood effects on cognition and judgement when more extensive, elaborate processing strategies are adopted in response to complex, demanding cognitive task (Sedikides, 1995).

Conclusions of previous studies permit affirmed that positive conflicts predict the quality of the decision (Orpen, 1997). However, post experimental subject reports confirmed that the NASA Moon Survival exercise was seen as a test of task knowledge and of ability to manage opinion differences in small groups. The task seems to be an analogue for managerial problems where knowledge of the problem space varies across group members, and where initially, members are unaware of their colleagues' relative task knowledge. Therefore, we had observed that participants who change more their initial opinions in the group decision making will feel more dissatisfaction with their performance because they perceived it is a test of task knowledge and of ability. Our results showed that those who received an AIE instruction develop more changed in the group processes as result of share and discuss different reasoning.

This evidence is in agreement with previous results from Nordstrom, Wendland and Williams (1998) in a computer skill acquisition task. They observed that trainees in Error Management Training reported significantly higher frustration levels than trainees in Error Avoidance Condition. Across practice the mean frustration scores of EMT trainees significantly decreased, while the frustration scores of error avoidance trainees rose significantly. Nordstrom et al. (1998) showed that EMT positively correlated

with intrinsic motivation. Therefore, trainees who are intrinsically motivated to learn new skills might be expected to be more likely to use these skills at the work place than those with lower intrinsic motivation levels.

Satisfaction with performance can be defined as «a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience» (Locke & Latham, 2002). Job satisfaction involves responses to prior or current facets of the work situation, as well as the projected reactions to future events and conditions which have been called anticipated job satisfaction. Therefore, individuals evaluate their satisfaction from their ability showed in individual decisions in front of the group ability, because they did not know NASA ranking at this stage. From a performance goal perspective, satisfaction will be based on the ability they believe they have displayed; in contrast with learning goal satisfaction will be based on the effort they have exerted on the task. Therefore, satisfaction with performance measure is understood from a performance goal orientation. Postexperimental subject reports confirmed that the exercise was seen as a test of task knowledge and of ability to manage opinion differences in small groups.

Effective problem solving on many types of complex tasks requires learning (of task structure, strategies, and responses). As group performance is a function of conflict management behaviours, where conflicts management is a particular aspect of process. Positive conflict management involves examination of competing knowledge bases, exploration of alternatives, and the willingness of participants to argue for their points of view (Bottger & Yetton, 1988). That is, there is an emphasis on knowledge, logical argument, and explanation. By contrast, negative conflict management includes voting or coin tossing to resolve opinion differences, «I win – you lose» dominance games, and the reluctance of some participants to argue for their opinions.

As for future research, the results presented here suggest it would be interesting to analyze the role of leadership developing collective capacity beliefs across training programs in Affect Inoculation on Errors in groups or teams that would motivate their performance and commitment with the organization. So far, certain studies have demonstrated that one of the most effective strategies for generating collective efficacy judgments is to increase the number of acts that pursue a common purpose (Bandura, 1997). In organizational contexts, it would be interesting to analyze the effect of these training programs on different task as complex, dynamics complexity, creativity, or conflict and negotiation situations.

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