

## CHARACTERIZATION OF BURNOUT SYNDROME: EXPERIMENTAL PROPOSAL

### CARACTERIZACIÓN DEL SÍNDROME BURNOUT: PROPUESTA EXPERIMENTAL

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#### Abstract

A study is presented that assesses the effect of feedback on a problem-solving task, and relates it to the onset of behaviors associated with Burnout Syndrome. Six undergraduate students between the ages of 21 and 24 years participated. The *Maslach Burnout Inventory- Student Survey (MBI-SS)* was used, plus the board game "*Mente Maestra*," by Birján. The object of the board game is to find the hidden code on the basis of feedback given. The study consisted of two groups with three participants in each group. The design used was a simple balanced design with pre-and post-test with full feedback and two phases, one with no feedback and the other with partial feedback. The results show that with no feedback, the participants give fewer right answers, invest less time in finding the right answer, and increase their comments about the task (e.g., "can you tell me if the color is right?"), execution (e.g., "I'm doing great!"), state of being (e.g., "I feel tired!"), and manifestations of state of being (e.g., rubbing their eyes) in comparison with the partial-feedback phase and the pre- and post-tests. The results observed in this study were related to associate behaviors displayed in people diagnosed with Burnout Syndrome, inasmuch as they are linked to the individual's states of being and his performance in situations with a certain degree of ambiguity, which has been related to the onset of this syndrome.

Key words: Burnout Syndrome, Feedback, Experimental proposal

## Resumen

Se presenta un estudio que evalúa el efecto de la retroalimentación en una tarea de resolución de problema, relacionándolo con la emergencia de conductas asociadas al Síndrome *Burnout*. Participaron 6 estudiantes de licenciatura entre 21 y 24 años de edad. Se utilizó el cuestionario *Maslach Burnout Inventory- Student Survey (MBI-SS)* y el juego de mesa "Mente Maestra" de Birján. El objetivo del juego de mesa es encontrar el código oculto con base en la retroalimentación dada. Constó de 2 grupos de 3 participantes cada uno. Se utilizó un diseño balanceado simple con pre y post prueba con retroalimentación completa y dos fases, una sin retroalimentación y la otra con retroalimentación parcial. Los resultados muestran que sin retroalimentación, los participantes disminuyen las respuestas correctas, invierten menos tiempo en encontrar la respuesta correcta y aumentan los comentarios sobre la tarea (i.e. "¿me puedes decir si está bien el color?"), ejecución (i.e. "¡Lo estoy haciendo muy bien!"), estado (i.e. "¡me siento cansado!"), y respuestas de estado (i.e. tallarse los ojos) en contraste con la fase con retroalimentación parcial y la pre y post pruebas. Los resultados observados en este estudio se pudieran relacionar con aquellas conductas asociadas en personas diagnosticadas con Síndrome *Burnout*, en la medida en que se vinculan con estados del individuo y su desempeño en situaciones con cierto grado de ambigüedad, lo cual se ha relacionado con la emergencia de este síndrome.

Palabras clave: Síndrome *Burnout*, Retroalimentación, Propuesta experimental

Burnout Syndrome (Freudenberger, 1974) has been identified as a collection of signs and symptoms expressed primarily in people in workplace conditions. In general, it is characterized by a condition of maladjustment on the part of the individual to her job circumstances, and expresses itself mainly in reports of physical and emotional exhaustion along with underperformance on the job.

The explanation of the conditions in which this disorder appears and develops can be classified primarily within two overall dimensions: clinical and psycho-social. From the clinical perspective, Burnout Syndrome is recognized as a state of being individuals reach as a result of job stress (Freudenberger, 1974; Pines & Aronson, 1989). The psycho-social perspective, on the other hand, identifies it as a process that develops out of the interaction of characteristics from the workplace with personal characteristics (Cherniss, 1992; Leiter & Maslach, 1988; Maslach, 1976; Maslach & Jackson, 1981). According to Gil-Monte and Peiró (1997), the difference between the two perspectives lies in the fact that Burnout Syndrome as a state of being encompasses an array of feelings and behaviors that are usually associated with job stress, and as a process, on the other hand, it passes through a sequence of different stages or phases with symptomatology that is, in turn, differentiated. Both perspectives recognize that the conditions in which these signs and symptoms appear are related to workload, control

over elements that structure the situation, remuneration, atmosphere or community, equity among subjects, values or correspondence, role ambiguity, and the precision of the demand (Freudenberger, 1974; Leiter & Maslach, 1999, 2001; Leiter & Robichaud, 1997). However, the analysis of this type of Syndrome focuses primarily on the recognition of the person's characteristics: type of profile, state of mind, level of competence (Burke, 1989; Golembiewski, 1989, 2002; Leiter & Maslach, 1999, 2001; Maslach, 1976; Maslach & Leiter, 1999). Even when the importance of the context and/or type of situation is recognized in the development of the Burnout Syndrome, the literature does not clearly report how the circumstances determine individuals' performance. On the contrary, the work that has been done consists of field analyses on the basis of questionnaires and interviews. The behavioral consistencies have been defined in terms of traits and are defined with scores comparing them among individuals and populations (Maslach & Jackson, 1981; Peiró, Melia, & González, 1985; Von Emster & Harrison, 1998).

From an experimental perspective, some studies have been designed to assess variables that are linked to motivational factors (Deci, 1971; De Lange, Dikkers & Hauwen, 2008; De Goede & De Lange, 2008) in the effective performance of tasks under "job pressure" conditions. However, such studies have been conducted in "simulation" situ-

ations and/or in natural conditions, in which there is no proper isolation of the manipulated variables because they were conducted in non-“neutral” settings or where there are criteria for specific performance and therefore, specific demands regarding execution that cloud the variables to be studied.

In a previous study (Fuentes, 2007), an analysis was made of the relevance of identifying the structuring or contingent characteristics of situations that can bring out behaviors associated with Burnout Syndrome. From this point of view, the phenomenon is analyzed in terms of a field of relationships, where the structuring elements are mutually affected, and where the individual's behavior is a part of this structure. This type of analysis does not imply that the relationship of all the elements can be studied simultaneously in empirical work. One of them must be observed and manipulated with the awareness that a situation comprises other elements that are indispensable for understanding the results (Ribes, 1990a; Ribes & López, 1985).

From this perspective it can be recognized that individuals' behavior reflects the way they come into contact with the different elements that structure the situation, thus leading to a relatively regular adjustment pattern. These regular ways of doing things are recognized as interactive styles (Ribes, 1990a, 1990b). Initially, the interactive styles can be assessed once an individual interacts in a situation without any special performance criteria, so that she acts in line with her own functional history and thus, criteria are available for predicting how a particular subject will come in contact with a particular type of circumstance or situation.

This study will utilize the methodology of interactive styles to create artificial situations that are analogous to a natural situation, using relevant variables to measure a specific type of interactive style and predict how a person will behave in a similar situation.

Some authors have mentioned that some of the conditions that are most relevant for the onset of Burnout Syndrome have to do with situations where there is a high degree of ambiguity in the criteria under which an individual must perform on the job (Gmelch & Torelli, 1994; Leiter & Maslach, 1999; 2001; Meyerson, 1994; Oncins de Frutos, Nogareda, Pérez, & Hidalgo, 2001; Peiró, Melia, & González, 1985; Von Emster & Harrison, 1998;

among others). By this logic, the situation identified as ambiguity tolerance was chosen as a relevant situation for assessing some aspects associated with the development of Burnout Syndrome. According to Ribes (1990a), this type of situation is structured on the basis of relationships with low levels of signaling with regard to the consequences of the behavior. In this way, a situation reported as ambiguity tolerance can be assessed on the basis of the variable manipulation of the *feedback* on the individual's execution in the situation (Irigoyen et al., 2002).

The aim of this study is to look into the effect of feedback on a problem-solving task by relating it to the onset of behaviors associated with Burnout Syndrome (the individual's maladjustment to his job, reporting of exhaustion and workplace underperformance).

## Method

### *Participants*

Six undergraduates (five men and a woman) between the ages of 21 and 24 years participated. Three studied psychology, two were business majors and one was an industrial design student; all were in their seventh or eighth semester. Participants were selected on the basis of their availability and their willingness to collaborate voluntarily in the study, and were assigned at random to the experimental groups.

### *Instruments*

- Board game “Mente Maestra,” by *Birján* (see Figure 1).
- *Maslach Burnout Inventory- Student Survey* (MBI-SS) questionnaire (Schaufeli, Martinez, Marqués-Pinto, Salanova & Bakker, 2002): just the Burnout area. A person with Burnout scores high in the area of exhaustion and cynicism, and low in the area of professional effectiveness.
  - Instruction sheet (see Appendix 1).
  - Three batteries of questions inquiring into the participants' state of being (see appendix 1).
    - For recording the participants' behavior, a Sony 8 CCD-TRV12 video camera was used.
    - For behavioral recording, the EthoLog program 2.25 was used (Ottoni, 1999).

### *Design*

A simple balanced design was used, with two

Table 1

		Pre-test Continuous and full feedback	Phase 1			Phase 2			Post-test Continuous and full feedback	C
Group1 N=3	C		Continuous and partial feedback			Zero feedback				
Group 2 N=3			Zero feedback			Continuous and partial feedback				
Trials		6	6	6	6	6	6	6		

6 Trials: 2 trials with 6 colors, 2 trials with 4 colors, 2 trials with 2 colors; C: Maslach *Burnout* Inventory- Student Survey

groups of three participants each (see table 1). The study included a pre-test, a post-test and two phases. Each phase consisted of 3 sessions with 6 trials each. Each phase lasted two hours at the most.

*Procedure: Experimental Situation*

Two groups were formed, with three people in each one. In Group 1, continuous and partial feedback was first given (phase 1) and then the feedback was withdrawn (phase 2); and in Group 2 it occurred the other way around. In the pre- and post-tests, continuous and complete feedback was given. Before and after the pre- and post-tests, the MBI-SS questionnaire was applied to both groups. At the beginning of each session, battery 1 of questions was applied; at the end of each phase, battery 2; and at the end of the study, battery 3; all three inquired into their state of being (see appendix 1). Phases 1 and 2 were made up of 3 sessions and the pre- and post-tests took 1 session. Each session was made up of 6 trials. Each trial varied in terms of the number of marble colors presented (2, 4 or 6). The participants had to answer the game (see Figure 1 for explanation) on the basis of the feedback

given. The game was explained to them, and they were told they could change trials or end the session whenever they requested.

*Feedback Conditions.* *Continuous feedback* refers to giving feedback for every response given per trial. The *complete feedback* condition refers to giving feedback for each of the correct responses, i.e., when the placement and/or color of any of the marbles are correct (correct location and color, correct location or correct color). The condition of *partial feedback* refers to giving feedback only when any of the marbles is correctly located (correct location and color only), and; in the *No Feedback* condition, no feedback is given for any response (correct or not).

*Procedure: Data Registry*

To analyze the data, the percentage of correct trials per session was calculated for each participant, as well as the average time invested per trial, the average time invested per trial divided into correct and inconclusive trials. For each trial, the latency in forming one color row per trial was also calculated

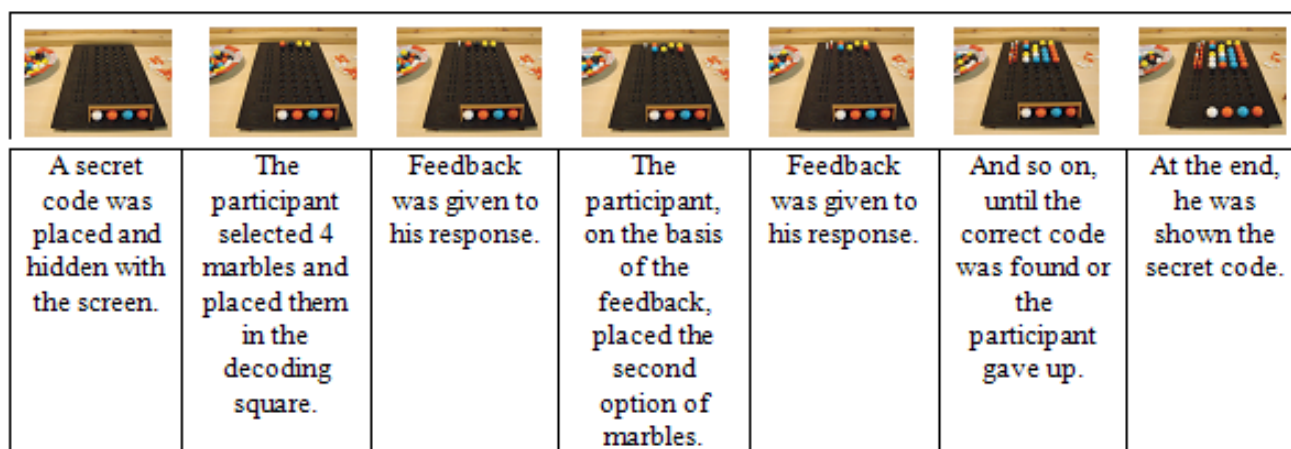


Figure 1. Process of the board game “Mente Maestra,” by Birján.

(less than 5 seconds, from 6 to 30 seconds, from 31 to 60 seconds, and more than 60 seconds) and the average time range per phase was calculated.

As for the behaviors, the sessions were recorded and subsequently the EthoLog program was used to register and analyze the per-session frequency of comments about the task (e.g., how many colors does it have?, what does this peg mean?, can you tell me if the color is right?), comments about the execution (e.g., I'm doing great!, I'm not going to give up!), comments about state of being (e.g., I'm tired! My back hurts!), and the frequency of responses that reflected some state of being (rubbing their eyes, yawning). An option of "others" was left for behaviors of any kind (e.g., smiles, small talk).

As for the *MBI-SS* questionnaire, the questions on the questionnaire were divided into those that asked about the area of exhaustion, about professional effectiveness, and about cynicism. For each question, the number of the Likert scale response

chosen was noted, and the sum total of each area was calculated for each participant. The maximum score of the exhaustion area is 30 points; of the cynicism area, 24 points; and of the professional effectiveness area, 36 points.

Results

The results of the (*MBI-SS*) instrument show no statistically significant differences in either of the two groups. Only Participant 4 scored high in both exhaustion and cynicism and obtained an average score in professional effectiveness.

In the two groups, four participants out of six left the no-feedback phase unfinished: two decided to end the session before reaching the two-hour limit, and two ran out of time before they finished.

Figure 2 shows the percentage of correct responses of the two groups. It can be clearly seen that in both groups, the participants in almost 5 out

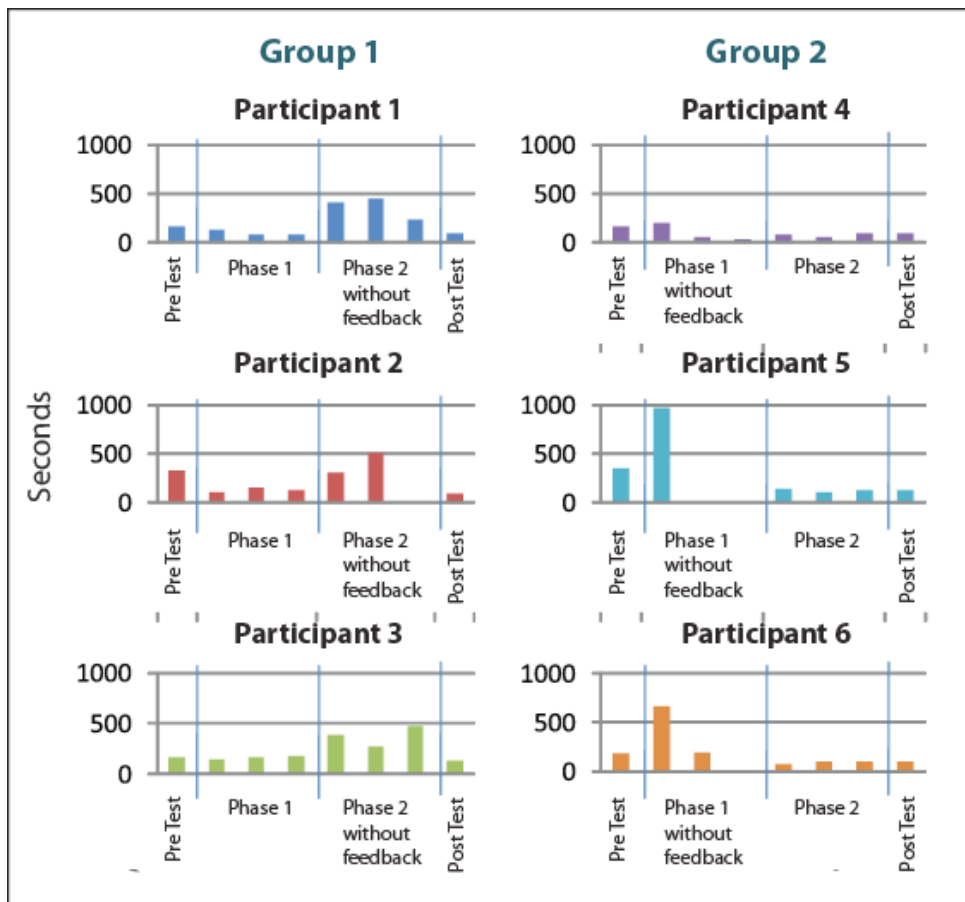


Figure 2. Percentage of correct responses in Groups 1 & 2.

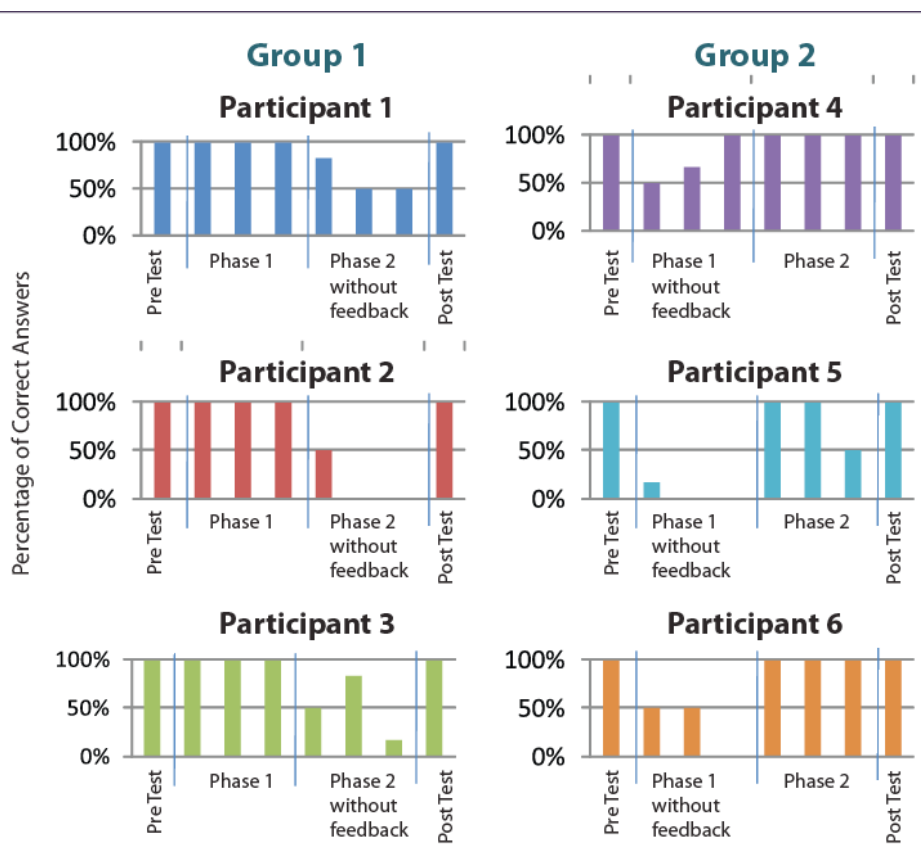


Figure 3. Average duration per trial (s) in Groups 1 & 2.

of 8 sessions show a 100% rate of correct responses (the sessions of the partial feedback phase and on the pre- and post-tests) with the exception of the no-feedback phase.

In Figure 3 the participants show an average time per trial of 200 seconds, i.e., approximately 3 minutes. However, in the no-feedback phase, the Group 1 took from 200 to 400 seconds to answer. And Group 2, in the same phase, also increased the time per trial, ranging from very little in the case of Participant 4 to very high, with Participants 5 and 6. Participant 5 had an average duration of almost 1000 seconds, i.e., roughly 16 minutes per trial (see Figure 3). When the correct and inconclusive trials are separated, it becomes clear that the participants dedicated much more time (from 400 to 1000 seconds) to the inconclusive trials than to those in which they managed to find the right answer.

Figure 4 shows the percentage of intra-trial response latency for both groups. The percentage of the participants who responded in each time range was calculated: five seconds or less, six to thirty

seconds, thirty-one to sixty seconds, and sixty or more seconds. The graphs are shown for the experimental phase. In the pre-test, the two groups show a response latency of 6 to 30 seconds. In the no-feedback phase, both groups bring the response latency down to less than 5 seconds, with the exception of Participant 6. However, in the partial feedback phase, Group 1 has a latency of 6 to 30 seconds and Group 2 shows a latency of less than 5 seconds.

Figure 5 represents the number of times each behavior occurred per participant. In Group 1, the activities that were observed the most were: execution comments and state-of-being responses in Participant 3. Participant 1 in general shows little activity related to the categories. Most were from the category “others”; an increase can be seen, however, in responses that refer to his state of being in phase 2, especially in session 2, which is the no-feedback stage. Participant 2 shows a slight increase in the responses that refer to state of being in the pre-test and at the beginning of Phase 2. Participant

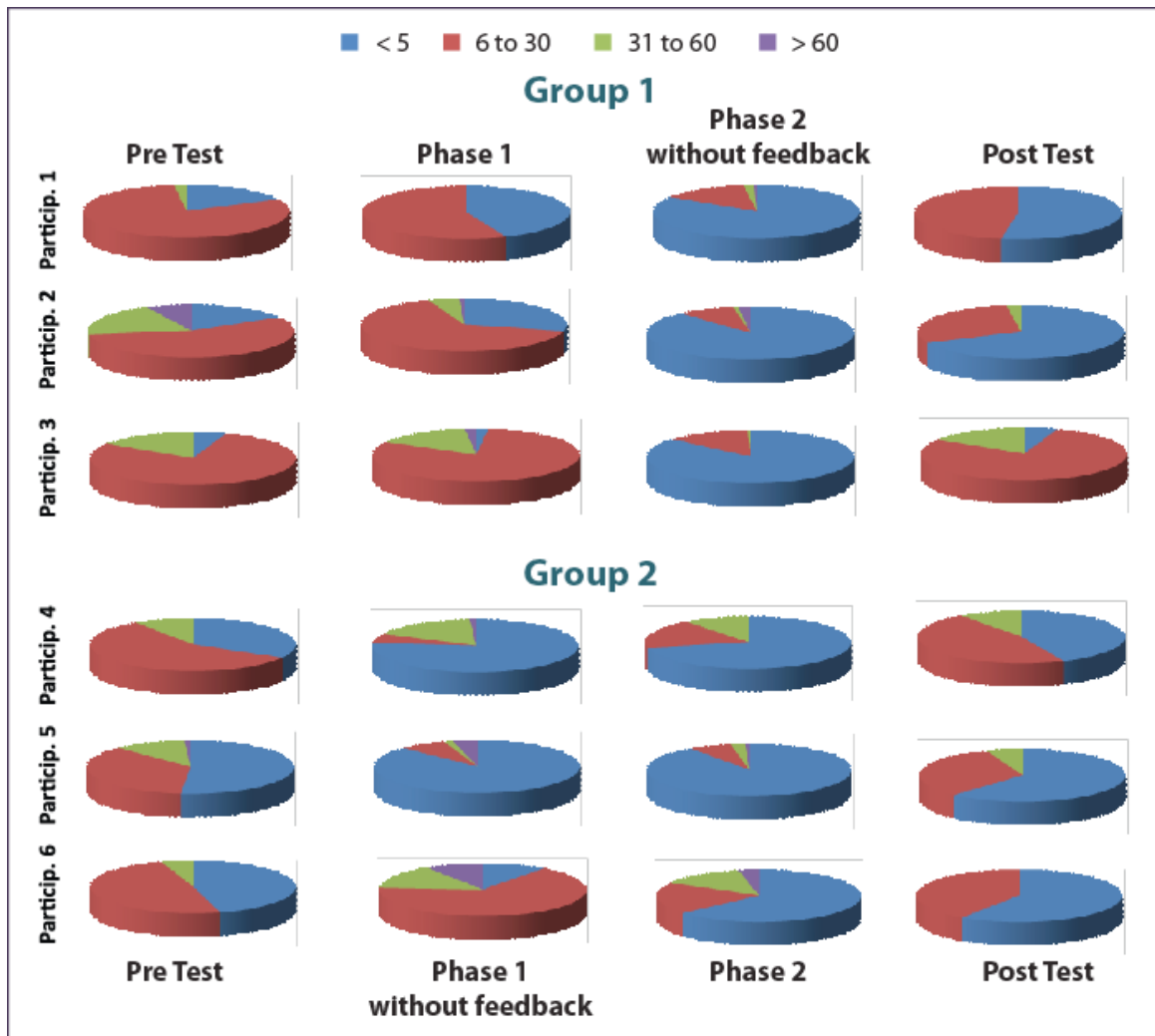


Figure 4. Intra-trial latency response (s) in Groups 1 & 2.

3 shows a considerable increase in the comments about execution in the second phase session 1, and they gradually decrease over the course of the sessions, but remain higher than in the other stages.

As for Group 2, the highest peak is seen in Phase 1, i.e., in the no-feedback phase, especially in the state-of-being responses, and in the comments about execution. Participant 4 has an increase in the state-of-being responses in Phase 1, at the beginning of the sessions; then they decreased when he found a strategy that allowed him to solve the code more easily. Participant 5 in the pre-test shows a number of comments about her performance, which was sustained in Phase 1. In Sessions 2 and 3 of Phase 1, she shows a decrease in the behaviors because she withdrew from the study. She also has

an increase in Phase 2 in the category of state-of-being responses, and in the category of "others." Finally, Participant 6 shows an increase in Phase 1, in Session 1, and comes down in the other sessions after finding effective solution strategies; in Session 3, time ran out and he could not complete it.

With regard to the results of battery 1 of questions, which were presented before each session (see Appendix 1), after a number of play sessions most participants report feeling tired and fed up. Participant 1 has positive responses overall, however Figure 5 shows that in Phase 2 she has many state-of-being responses. Participant 2 has negative responses overall with regard to his state, however, it increases from tired to exhausted and from discouraged to desperate in Phase 1. He reports a head-

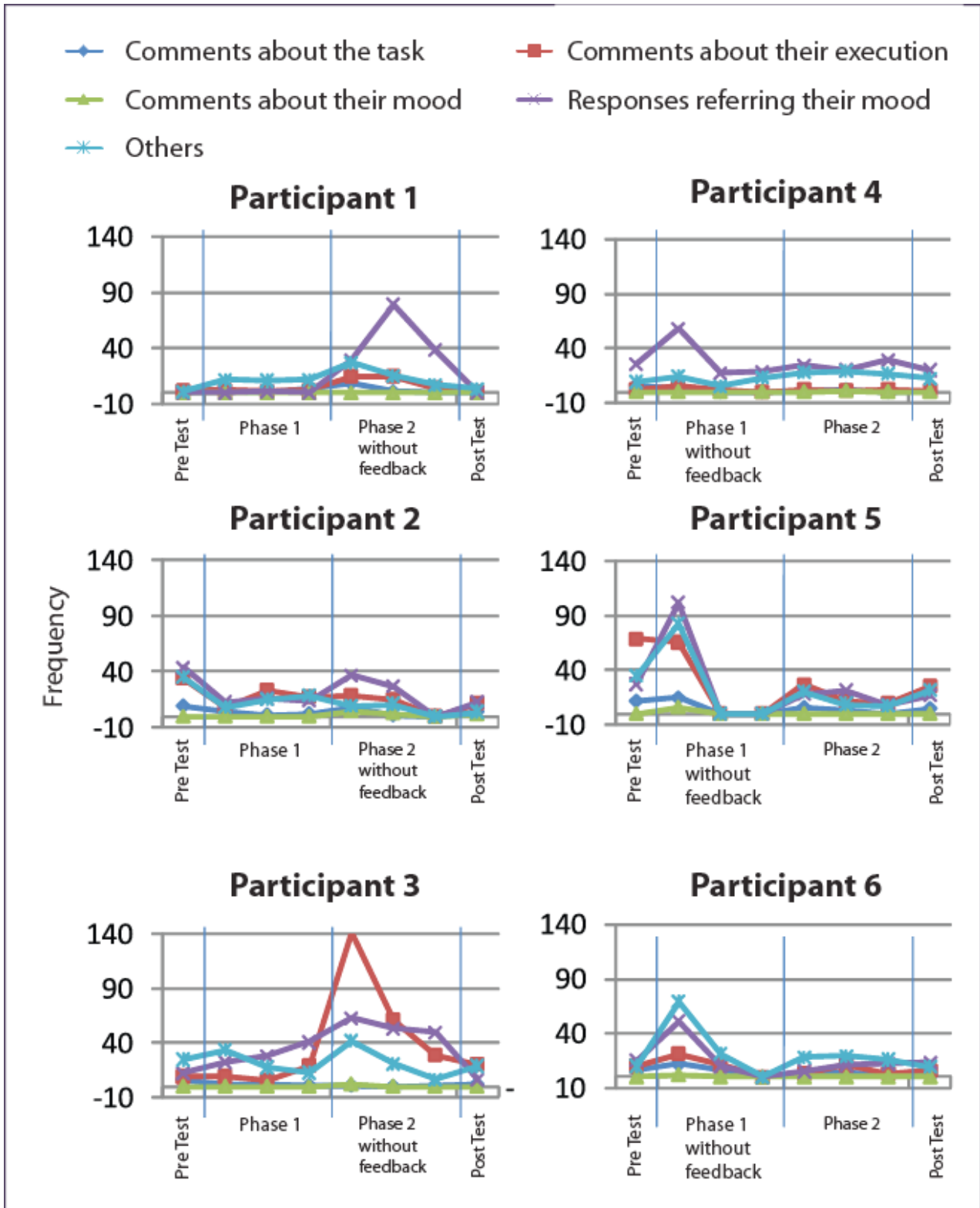


Figure 5. Presentation of behaviors



ache in Phase 2, before finally giving up on the activity. Participant 3 shows in Phases 1 and 2 that her initial performance is acceptable, then she reports feeling tired and ends up reporting that she feels fine again. It must be noted that after a fit of laughter she reports feeling fine again. Participant 4 reported having a chronic backache, which apparently persisted throughout the study, but did not increase. In the no-feedback phase (Phase 2), no change is seen in his state of being from session one to two, which was when he still did not have a strategy for answering quickly. Participant 5 aborted the activity in Phases 1 and 2. In general her performance was acceptable. Participant 6 reported in Phase 1 that he was fine and then that he was exasperated, as Figure 5 shows, and in Phase 2 he first reports feeling lazy, then triumphant, and finally fed up.

With respect to battery 2 of questions, presented after each phase (see Appendix 1), question three describes output. In Group 1, Participant 1 grades her output as unsatisfactory in Phase 2, which was the no-feedback phase and where she had a low percentage of correct responses. For his part, Participant 2 graded his output as low in Phases 1 and 2; however in phase 1 he had a lower average duration per trial than in the pre-test, which graded his output at 80%. Participant 3 graded her output as not very good in Phase 1, and bad in Phase 2, which is consistent. In Group 2, Participant 4 graded it as good, good, very good and very good; it is clear that by finding a good strategy he gradually improved over the sessions of the different phases. Participant 5 graded her in all cases as satisfactory and good, but in Phase 1 she had a very low percentage of right answers and a long average time per trial. Participant 6 always graded his performance as good, even though in Phase 1 he had a medium-level percentage of right answers and a long average time per trial.

## Discussion

The objective of this study was to learn about the effect of feedback on a problem-solving task, relating this to the onset of behaviors related to Burnout Syndrome (maladjustment on the part of the individual to his job circumstances, reporting exhaustion and unacceptable job performance).

Martínez (2001) analyzes the effects of the providing and withdrawing of feedback on execution in the assessment of transmission, where the subject loses the informative reference regarding his execution. In the results of this study, it was found that in the no-feedback phase, the participants' output declined as compared with the feedback phase. This execution is observed in inter- and intra-trial response time, in the number of right answers per trial, and in the comments and states of being that were recorded in terms of their behavior in the experimental task, since on the basis of the definition of the Burnout Syndrome, these are its characteristics. There is therefore consistency between the results concentrated in Martínez's study (2001) and those found in the present study. This supports the idea that the functional role of feedback is important because it lets the participant identify the characteristics of the test. Feedback, depending on execution, is important for participants to perform a task successfully.

In this same study, Martínez (2001) explains that when feedback is withdrawn, participants fill in this contingent vacuum with available information and adjust to relations that are different from the ones they expected. This can also be seen in the present study, where it was seen that when feedback was withdrawn, the participants from both groups looked for something that would give them information. Each participant, in different ways (counting the marbles, looking at the experimenter's reactions, writing down the steps, repeating the steps out loud, etc.), tried to fill in the contingent vacuum that they faced.

For their part, Martínez, González, Ortiz, and Carrillo (1998) found that if the elements of a given covariation are clearly determined, with precise instructions and continuous feedback provided, and enough trials are allowed to imitate the sample in experimental preparation, it is possible for participants to obtain efficient executions. In the present study it was found that in both groups, the participants in almost all the sessions (5/8 sessions) gave 100% correct answers, with the exception of the no-feedback phase (3/8 sessions). Unlike Participant 4, who after a few trials began to count the marbles that were outside the board, and on this basis formulated his answers, so that in the last session of the no-feedback phase, he managed to

give 100% right answers. Participant 5, for her part, withdrew from the activity in the first session. It can be observed that with feedback, efficient executions are obtained, and without feedback, efficient responses decline. This relates to conclusions drawn by Gil-Monte and Peiró (1997); Leiter and Maslach (1988); Maslach, Schaufeli, and Leiter (2001) and Peiró, Melia, and González (1985) among others, that ineffectiveness or personal underachievement should be included as characteristics of Burnout Syndrome, meaning the participant's output falls in comparison with his previous output. This is consistent with the premise that ambiguity can trigger Burnout Syndrome.

In no-feedback condition, the participants graded themselves as low-output, discouraged, desperate, tired, etc. This relates to Burnout Syndrome in terms of lack of capacity as a modal category and of the category of personal underachievement or ineffectiveness as an adverbial category, where they self-graded their output as negative.

With respect to the difference of time invested in the pre-test and post-test, in the pre-test most participants invested from 6 to 30 seconds in answering a color line, and in the post-test, less than 5 seconds. This could be linked to the novelty of the situation – they were not familiar with the game and looked for references to answer correctly. Once they knew the game, and had dealt with more complicated games, when they went back to the post-test, they needed less time than they had invested on the pre-test. In a no-feedback situation, most of the participants needed more time than in a feedback situation. The participants looked for something that would give them information to respond in the trials, and this made them invest more time than in the phases with feedback.

The intra-trial response latency referred to the time the person took to answer each line of marbles in each trial. Differences were found between the two groups: Group 1, which had partial feedback provided before the no-feedback phase, and Group 2, which received partial feedback after the no-feedback phase. In Group 1, the time participants took to respond ranged from 6 to 30 seconds in the partial-feedback phase, and in Group 2, in this same phase, the response latency was kept to 5 seconds at the most, indicating that having no feedback before partial feedback affects the intra-trial response time

range, but not the other way around. Some studies have shown that response latency can be an indicator of Burnout Syndrome inasmuch as it is associated with job performance and the individual's state of being (Burke, 1989; Leiter & Robichaud, 1997; Meyerson, 1994; Peiró, Melia & González, 1985). This indicator showed a decline in the response latency in the feedback phase in all the participants. Comparing this point with the previous one, it can be observed that in the no-feedback phase, participants spend a great deal of time finding the right answer and take little time per intra-trial response. In other words, they make many more intra-trial responses than in the feedback phase, and they also spend more time per trial finding the right answer. This has to do with a lack of information, where the participant must invest more time in finding some strategy for solving the problem. When she finds she cannot fill this structural vacuum, she ends up answering at random, giving many responses in a very short period of time. There is no point of reference for an adequate adjustment.

For its part, having the no-feedback phase before the partial-feedback phase affects the intra-trial response time range, but not the other way around, because there is a difference between Group 1, that had the partial-feedback phase before the no-feedback phase, and Group 2, that had the partial-feedback phase after the no-feedback phase. This could be related to a perseverance of the behavior over a time continuum, the way the stimulus and response functions modify each other and change in subsequent presentations.

Results show that in the no-feedback condition, participants showed a decrease in the time devoted to completing the task as the trials went on. This could be related to the decrease in perseverance associated with the individuals suffering Burnout Syndrome (Leiter & Robichaud, 1997; Meyerson, 1994; Peiró, Melia & González, 1985). In the No-feedback Phase, Participant 2 of Group 1 and Participant 5 of Group 2 withdrew voluntarily from the activity, unlike in the partial and full feedback phases, in which no one withdrew from the activity. Withdrawal from the activity in the experimental task can be related to quitting a job and workplace absenteeism, as mentioned by Gil-Monte and Peiró (1997), Ramos and Buendia (2001); Salanova, Schaufeli, Llorens, Peiró, and Grau (2000).

To summarize, all of the participants, when exposed to a situation in which they had no reference about their execution because there was no feedback, decreased their right answers, invested more time per trial and intra-trial in order to find the right answer, with most of the participants deciding to change trials before finding the right answer, and increased their comments about the task, about their execution, about their state of being, as well as in the state-of-being responses that were recorded. On the basis of the given definition, where the circumstance has to do with the lack of feedback, their effectiveness at meeting the demand of the task went down, unlike their execution in the feedback stage. The participants reported their output in the no-feedback stage as negative. It can therefore be suggested that the participants behaved in accordance with some of the characteristics of Burnout Syndrome inasmuch the individual shows maladjustment to her interactive circumstances, while reporting exhaustion and displaying underperformance and exhaustion.

It is very common to find studies in which the way to measure the subject's behavior is by using inventories, questionnaires or interviews. When this type of measurement is used, there is a risk of measuring the report the subject makes of his behavior, and not the subject's actual behavior. For measuring Burnout Syndrome, the *Maslach Burnout Inventory (MBI)* or one of its derivatives is generally used.

Participant 4, on the *MBI*, scored high in the areas of exhaustion and cynicism, and low in professional effectiveness; with these results he would be diagnosed with Burnout Syndrome. And yet, on the experimental task, the participant was among those who had the best performance: in the no-feedback phase he took a very short time to find the right answer, and also made very few comments about his execution, the task, etc. Therefore, there is a difference with Participant 4 between what he says (on the basis of the survey results, he would be diagnosed with Burnout Syndrome) and what he does (he had the best performance on the experimental task). This is a weakness of measurements based on self-reporting that in this study was eliminated by using more objective data, such as response time, comments and states of being that the subjects displayed, right and wrong answers. For this reason it is important to conduct studies with observable

and analyzable data where the participant displays actual behavior as a faithful indicator of what she does, and measurements are not made exclusively on the basis of what the participant says she does.

Another problem with this kind of instrument is that behavioral consistencies have usually been addressed in terms of traits, and defined on the basis of scores obtained on these instruments when it is not possible to identify the variables that have an impact on the individuals' response. These differences are measured as differences in scores among individuals, and not as the stability of direct measurements of behavior with respect to the same individual. There is not sufficient clarity regarding the direct quantitative and qualitative indicators that identify the singularity that might characterize the stable behavior of a single individual compared with him (Ribes, 1995). Thus, aside from studying the variable in a situation and not by means of an instrument, data were also analyzed individually and in this way, unwanted variables were kept constant, unlike group experimentation. There is greater certainty that lack of feedback is responsible for the changes in the response time, the frequency and the type of comments.

One of the advantages of the experimental situation that was used was that the participants' behavior could be measured in interaction with a situation that was neutral with respect to the phenomenon of interest. The variable "lack of feedback" was chosen as the independent variable so that the participants would find themselves in a situation where they were not sure if what they were doing was right or not, i.e., a situation of ambiguity.

Once the study was completed, a number of needed improvements were detected, as well as points that might help future researchers:

a) One of the limitations that were found was applying the board game live, since there were outside variables such as laughter, off-topic conversations that were irrelevant to the study, delays in feedback, among others, that would not have occurred had the game been applied by computer. However, all the outside variables were equalized, i.e., all of the aforementioned outside variables occurred with all the participants.

b) In this experimental situation, only the precision of the task was assessed; exploration needs to be done, however, into the role that feedback plays

in Burnout Syndrome, and into certain variables that also have facilitating functions with respect to behaviors with features of Burnout Syndrome, such as remuneration, control on the job, workload, and values that are consistent with the job to be done.

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## Appendix 1

### Instructions and Batteries of Questions

#### Instructions

“This is a typical game of *Mente Maestra*. I am going to arrange four colors combined in different ways. I will tell you whether there are 6, 4 or 2 colors, and colors may repeat. You will answer in the bottom part. If you have some colors right, but they are not correctly placed, I will place one white peg per marble. If you have the color and the placement right, I will place one orange peg per marble. If I don't place any peg, it means that neither the color nor the placement is right. Do you have any questions?” Questions were answered, and one open game was played as an example until everything was clear.

#### Battery 1 of Questions

Applied before each session.

1. Use an adjective to describe how you feel.
2. Describe how you feel physically.

#### Battery 2 of Questions

Applied after each phase.

1. Use an adjective to describe how you feel.
2. Describe how you feel physically.
3. Describe your output.
4. Do you want to keep on participating?
5. If you could change something, what would it be?
6. Is there anything occurring in your life that distracts you from performing the task? To what degree?

#### Battery 3 of Questions

Applied at the end of the study

Comments

Did the task affect you in any way? How?