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## The Gender Stereotype Threat And The Academic Performance Of Women's University Teaching Staff

### Abstract

*Women working in academic environments that are male dominated are subjected to high levels of occupational stress due to the so called stereotype threat (ST) (Steele, 1997). Stereotype threat is a social-psychological threat that arises when one is in the situation of doing something for which a negative stereotype about his/her group applies. For women's university teaching staff stereotype threat is a source of anxiety that affects their performance, career commitment and overall job satisfaction. Additionally ST accounts, partly, for the horizontal and vertical gender segregation that is found in many fields. In order to overcome these problems we have proposed a preventive intervention program based on Rational Emotive Behaviour Therapy principles.*

### Gender stereotype threat in Academia

A diachronic analysis of the long term effects that discriminations of every kind (ethnic, racial, gender) have had upon the social and economic evolution in different cultures draws our attention on the importance that must be placed on this matter (Miroiu, 2003). In the present paper we have focused exclusively on the gender issue.

In this era of acerb competitiveness the negative consequences of gender stereotypes are difficult to ignore, as they severely affect the professional sphere. Studies conducted in different countries indicate a problematic situation for female working in male dominated environments, especially fields traditionally perceived as suited for man (e.g. Inzlicht, Ben-Zeev, 2003; Steele, 1997; Heilman, Wallen, Fuchs, Tamkins, 2004; Brown, Josephs, 1999; Schmitt, Opre, et al 2003). A close look at the academic setting reveals that most chairs/departments are dominated - both numerically as well as in which leading positions are concerned- by men. Women are underrepresented numerically, and their presence in leading positions is insignificant (Opre, 2004). This asymmetry leads to a pressure upon female teaching personnel, expressed in what Steele (1997) labeled as the "stereotype threat" (ST). A stereotype threat is a socio-psychological threat that arises when one is in the situation of doing something for which a negative stereotype about

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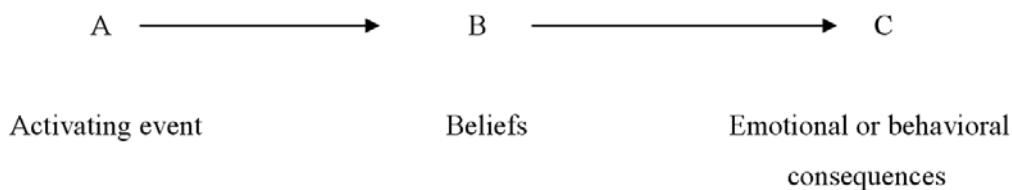
### Key words:

gender stereotype treat, academic performance, REBT

his/her group applies. This greatly increases the levels of occupational stress and anxiety, which in turn account greatly for decreases in performance (Steele, 1997). The repercussions of this fact are detrimental to women in these departments. Being subjected to increased stress, they have to work harder to achieve the same level of performance as men. This adds up to other pressures they have to deal with, such as family responsibilities or the pressure to conform to an acknowledged "feminine" stereotype in order to be liked (Kierstead & al, 1988). The consequences extend further on, to the young women that are aspirants to an academic career in a domain and that can easily be discouraged, through the lack of successful career role-models (Nauta & al, 1998).

The stereotype threat should be considered with great attention, as the theories imply that it affects precisely the valuable women in a field. These women, who are competent and skilled, are field identified, and thus more determined to be successful and to overcome the stereotype. But this determination to overcome the stereotype often leads to the mere activation of the stereotype. According to Albert Ellis paradigm, the stereotype can be considered a cluster of irrational beliefs that initiate and maintain the high levels of anxiety. Or, it is well known that if a high level of anxiety is present, performance decreases.

So far, solutions to overcome this stereotype threat refer to either changing the environment (Steele, 1997) or conforming to the general stereotypes associated with women (Kierstead, D'Agostino, Dill, 1988) - women in male dominated fields should act as „feminine" as possible (consistent with stereotypes) to avoid social disapproval. We suggest an alternative way. Because it would be both inefficient, and less feasible trying to change the male dominant academic environments, by a direct adjustment of the men / women rapport, we preferred a more realistic strategy. To be more precise, we will try to diminish the effect of stereotype threat by improving cognitive strategies of the women involved in such environments, in order for them to successfully deal with a threatening environment in terms of professional performance. In this sense, we propose an intervention that is preventive in its nature and that aims at the individual level. Emerging from Rational Emotive Behavioral Therapy (REBT) specific strategies were applied in educational environments for changing unacceptable student behavior or reducing teacher stress - Rational Effectiveness Training (RET). Based on the work of Albert Eliss, the director of the Institute for Rational emotive and Behavior Therapy, REBT represents a counseling intervention based on the assumption that the emotional problems come from a dysfunctional thinking style about certain events and not the events them selves. This idea is shown in the ABC model of emotional problems, where A stands for the activating event, B for the beliefs about the event and C, for the emotional or behavioral consequences.



The general impression is that the activating events determine the consequences. Still, the REBT theory states that the beliefs about the activating event have a critical role in determining the consequences. If the beliefs are rational, they lead to moderate emotions that allow people to act constructively and achieve their purposes. Opposed to them, the irrational beliefs lead to dysfunctional emotions such as anger, anxiety or depression, that stops people from achieving their goals. As far as REBT is concerned, in order to be considered rational, one should: a) be pragmatic, b) be logic and c) be in accord with the objective reality. That's to say *rationality* is defined as what helps the individuals achieve their basic goals, is logically not absolute and does not defy the objective reality. On the other hand, *irrationality* refers to what interferes with the achievement of the individuals' goals, is illogical (especially dogmatic and inflexible) and is inconsistent with the objective reality.

The most disturbing irrational beliefs are the ones that include the "must" (with necessity) demand, such as: "I must prove that I am very competent". A great deal of empirical proof support the idea that anxiety is an unhealthy emotion, caused by the persistence of the irrational thoughts (Ellis, 1962, 1976, 1994, 2001; DiGiuseppe, 1996, Dadiu, 2003; Dryden, 2005). Replacing these irrational thoughts with their rational alternatives leads to an anxiety diminish and, implicitly, a development of more adaptive functional behaviors. This theory has been validated by empirical studies and the efficiency of a great number of preventive (REBE - Rational Emotive and Behavioral Education)(see. Opre & David, 2006), therapeutical (REBT - Rational Emotive Behavior Therapy) or optimization interventions (RET - Rational Effectiveness Training). The great advantage of this type of intervention is that it does not require any change in the environment because its focus is on cognitive restructuring. This is precisely what our intervention aims, as it would be a very difficult and ineffective goal to try to significantly change the composition of the academic environment in the near future.

Our proposed support action is designed to be implemented in the academic environment of the Babes Bolyai University (BBU), Cluj-Napoca. This is a statistically proven male-dominated environment ( 75% men), with most departments consisting of and being conducted by men. Although when entering the college the number of female students is usually higher than that of male students, when it comes to pursuing an academic career in the chosen field, the number of female students is significantly lower than those of men. A preliminary study carried out in the BBU's four departments revealed a higher level of occupational stress (as measured with O.S.I.) in the case of women working in the male-dominated department than for those working in the gender-balanced department.

It is clear that such a gender unbalanced environment is detrimental to its members. First, it is discouraging to a female undergraduate who might be thinking about pursuing a career in the field. Thus, the environment may be preserving itself in some cases, by indirectly discouraging women's participation.

Second, women who already work in the field are under a lot of pressure. The inherent stress of the current job and of, possibly, extra family responsibilities, is doubled by increased self evaluative anxiety. Women in these fields are constantly under the pressure of proving themselves, even long after their career achievements shouldn't be questioned anymore. Even more, empirical studies have shown that, when women in these fields have been acknowledged as successful, they are often perceived as breaking some kind of societal norms and thus, they are "punished". This punishment translates into social difficulties in the working environment, as they are perceived as hostile, cold,

unwilling to socialize with others; in a word they are disliked. This leads to even more difficulties, as the same study shows that liking or disliking a person is a strong bias in the evaluation of those person's performances. Thus, vertical segregation of the male dominated fields is preserved, as it is more and more difficult for women to advance in their career, regardless of their abilities and performances (Heilman, Wallen, Fuchs, Tamkins, 2004).

## Women and the powerful scientific community

Socio-economical development depends, essentially, on a powerful scientific community. In order to ensure the development of such a community, it is necessary, first of all, to get young people attracted towards a scientific career and to encourage them, by all possible means, to consider choosing such a career. Secondly, it is imperative to ensure some requirements for those already engaged in a scientific career. The scientific environment should, therefore, provide them with the necessary conditions to preserve their enthusiasm and motivation, as well as with the opportunities of personal development and the possibility of reaching the highest level in their field. Thirdly one must accept the fact that a powerful scientific community should be open to all citizens. However, in most countries, including Romania, the scientific community, particularly academic, has remained dominated by men. Despite the fact that the number of women that graduate from an university is significantly higher, and in the last years the tendency is obviously ascendant, in most scientific domains, especially those that envisage research and scientific development, the disparity in the favour of men remains blatant. Women still remain ineffectually represented in domains that have traditionally been dominated by men, such as exact sciences and technological sciences. For example, a statistical analysis carried out in many European states at the end of the 90s revealed the fact that women represent only a percentage of 8-12 % in the technological domain and approximately 20% in the Physics domain of the total number of the teaching personnel (Nauta et al. 1998). Even though we can observe a slight increase in the presence of women in the fields of Biology and Chemistry, other fields such as Physics, Mathematics and the technological sciences prove to be less accessible in this sense.

Another matter at least as important and likely controversial, the aforementioned study shows, is represented by the very reduced presence of women in leading positions of departments or faculties. For instance, in the technological field, the number of women leaders doesn't go over 4 %, and this percentage doesn't exceed 25 % not even when all the academic domains are added up.

The majority of studies that have focused on elucidating the factors that can explain the reduced presence of the women teaching staff in these fields seem to lead to the same conclusion. Consequently, they have proved that, regarding the teaching-research responsibilities and the managerial ones, the main cause behind the reduced presence of women in the aforementioned domains consists of the gender stereotype. The gender stereotype, as we have mentioned above, refers to a set of categorical beliefs regarding the characteristics attributed to a person (man or woman), based on its belonging to one of the two sexes and that later fundamentals the expectancies regarding the abilities of the stereotyped person.

One can invoke of course numerous attempts to reduce the damaging effects of this kind of stereotype on women's professional opportunities. Unfortunately not so many have been successful. In fact, the majority of the situations in which modest or nil

results were obtained converge to the same conclusion: the gender stereotype is the main cause of this discrimination, but its effects are harder to remit. It is still very little about the psycho-social mechanisms that favour the development and sustainability of the stereotypical ideation and even less, the way it influences the behaviour and the performances of those who are the object of stereotypes. One idea clearly resulted from all these studies, specifically, that the negative effects of the stereotypes on the targeted person are dependent on the degree she identifies with her activity field. Thus, the more the person identifies herself with the work field, the more the effects of stereotypes on her professional performances are increasingly destructive (Inzlicht & Benn-Zeev, 2003)

The present project follows the study interest of the elimination or diminishing of the negative consequences of the gender stereotype. Precisely, we aim the development of the academic performances of the female educational professional that are active in departments traditionally dominated (numerically and managerial) by men. The empirical data prove that they tend to have increased levels of anxiety comparing with their male colleagues or with the female professionals active in departments balanced from the point of view of the male/ female number of staff. Supposing that this fact is true, we have enough reasons to believe that this state of facts can affect their academic performance with all its forms. The anxiety can be assigned to the existence of certain clusters of irrational beliefs that women develop in connection with the gender stereotype applied (or implied) by their male colleagues that has been labeled by Steele (1992) as the "stereotype threat". It is our believe that the aim of obtaining the full and equitable participation of women in all the scientific field and at all the academic level will promote the diversity, the progress and the excelency in the science. In case the paradigm we develop in the present paper will confirm its anticipated efficiency, we express the availability to extend its implementation in the Romanian universities at least. Moreover, we can prove that by supporting the gender equality by the present program through increasing women participation to the scientific and technological development, eventually social and economical benefits will be obtained.

## Intervention strategy

Our optimization program comprise comprises three intervention strategies: a. psychological - a method to improve the emotional control - RET (a program developed and based on the rational emotive and behavior therapy - REBT); b. pedagogical - programs based on improving the efficient teaching methods; c. programs of professional optimization focused on developing the research and managerial competencies. The results of the program have been already empirically tested through a preliminary pilot study that was conducted by us in two academic departments from Babes Bolyai University.. Now we are going to extend the strategy to all male dominated departments from BBU.

In order to achieve a logical and coherent process, we have set up the following three stages: 1. diagnosis; 2. formative intervention; 3. assessment. These stages include a series of activities, the most relevant presented as it follows:

**a. Identification the male-dominated academic departments in the "Babes-Bolyai" University (BBU).** Based on criteria established by previous research (Ülkü-Steiner & al, 2000), we defined a domain as being male-dominated when men represent over 70% of the members of the department. A domain would be considered gender-balanced if men



represent between 40% and 60% of its members. Thus, by implementing this first objective we will be able to categorize the departments in the BBU on the basis of gender composition in: a. male-dominated, b. gender-balanced and c. female-dominated.

**b. Comparative evaluation of women's academic performance (teaching, research and management) in the male-dominated (target groups) and respectively gender-balanced departments (control group).**

Previous studies have shown that women highly qualified in a field tend to under perform in the situation of the domain being identified as "male" (a field that has traditionally been dominated by men) as compared to equally qualified women in domains that have not been traditionally dominated by men. The activation of a negative gender stereotype (illustrated by a perspective like "women are less capable than men in that field"), mediated by the self-evaluated anxiety, has been distinguished as a major cause of these differences in performance. In order to objectively assess the level of the academic performance we will use standardised strategies (Miclea & Opre, 2002), adapted for each academic component. The teaching activity will be assessed by using a student rating form, video records and semi structured interview with the assessed faculty. We must mention here that the student rating form and the faculty staff interviewing protocol are already created, being the result of a previous study carried out by the project coordinating team (Quality and Competitivity of teaching in Higher Education, Opre & Opre, 2005). The research performance will be assessed on the bases of certain objective criteria widely recognised at the national and international such as: the number of publications in relevant scientific journals, the number of research projects (as coordinator, research member), the number of inventions, prizes for the scientific performances. Regarding the managerial component we will consider those dimensions which are viewed, according to the field studies, as being correlated with the leading activities effectiveness: taking risk attitude, the communication skills, sensation seeking need, self-efficacy, task orientated and employees oriented (in hypothetical situations).

**c. The comparative evaluation of the anxiety level, specified by the level of occupational stress, at women working in male-dominated and respectively gender-balanced academic departments.**

It has been shown by previous studies that women performing in a male-environment or in a traditionally "male" field experience a higher level of anxiety and stress than do their counterparts in gender-balanced environments (Ülkü-Steiner & al, 2000). The stereotype threat approach (Steele, 1997), which is to this date one of the most influential empirically tested paradigm in gender research, attributes this anxiety to the activation of a negative gender stereotype. Women are thus submitted to a double pressure: that of performing well on tasks (common to women and men) and that of facing the burden of a negative stereotype, the pressure of the desire and responsibility to disconfirm the stereotype with which they feel they have been labeled (Inzlicht & Ben-Zeev, 2003).

**d. The identification of present or implied gender stereotypes irrational believes.**

Within a male dominated environment there is a high probability for men to develop a stereotype cognition about their female colleagues. Particularly, in the university setting, the female faculty may develop irrational believes such as: "I must prove them that I am very competitive", "It is awful and unbearable that they view me as less competent than them", "I must obtain only high scores at students ratings of instruction", "I must prove that I am a good leader too". This set of irrational believes will be diagnosed by using the Attitudes and Irrational Believes Scale ABS II (DiGiuseppe, 1996), that has

been translated and adapted on the Romanian population (Macavei, 2002). Moreover, in order to identify the irrational implicit cognition, we will use an indirect task, namely, the Implicit Associations Test (IAT) (Greenwald, Banaji, 1995.).

#### e. Implementation of RET intervention program.

Once identified, the irrational beliefs will be the object of a REBT type intervention, aiming at replacing them with their rational counterparts. The previous results proved that through these interventions people can deal with their unhealthy/dysfunctional negative emotions (anxiety, for example) and to experience healthy negative emotions (for example, concern). The functional negative emotion does not interfere with the task the subject must accomplish, on the contrary, it may have a positive effect on performance. Thus, RET may be considered an efficient method for the remission of male dominated university environments women's anxiety.

#### f. Improvement of the teaching competencies.

By reducing the female faculty level of anxiety we will create the premises of an efficient intervention aiming at the improvement of instruction. Traditionally, the teaching improvement programmes focus exclusively on increasing the general pedagogical knowledge. In our paradigm, the novelty at this level consists on the fact that the identification, analysis and restructuring of their personal theories about teaching, as well as the training of the teaching staff on using efficient teaching strategies, will be prefaced by the decreasing of the anxiety level through REBT type techniques. The implementation of intervention will be made, as stated before, in an individualized manner, taking into account the specific and severity of the identified deficiencies.

#### g. Improvement of the research abilities.

The research abilities targeted to be developed in this project are the ability to conduct a scientific study, the ability to present and publish the results of a research, the ability to design and coordinate a scientific project. The manner we consider for improving these competencies consists in organising workshops with an average length of 20 hours. The workshops will be conducted by members of the project team with training abilities and specific field expertise.

#### h. Improvement of the managerial competencies.

The third category of academic competences representing the object of our intervention is the managerial competencies. The managerial competencies development programme will focus on the following dimensions: time management, responsibility delegation strategies, communication abilities optimisation (assertiveness training), and subordinates motivational techniques.

#### i. Evaluation of the intervention effectiveness.

This would be accomplished by repeating the diagnosis steps listed on the first stage. We will evaluate through certain specific indicators the changes occurred in academic performance, as well as at the level of anxiety. The evolution of these indicators will be monitored on a 4 year period from the end of the intervention through follow-ups.

## Potential impact

At a proximal level, our intervention is intended to significantly decrease the anxiety levels of women in the male dominated academic departments. On the long run, the intervention will replace the irrational beliefs that define the stereotype with rational ones,

thus ensuring a low level of anxiety, and less anxiety will result in better performance. Thus, female teachers will be better role models for female students, who will notice the possibility of succeeding in a field traditionally dominated by men. In time, this will lead to a constant increase in the number of women working in the field, so the environment will be different in its structure and will ensure gender equality in the field.

Moreover our program might impact upon the research area. Applying RET in the reduction of the stereotype-generated anxiety might lead to a development of RET. Even more, the project may generate some insight concerning the possibility of using RET in order to remit other kind of stereotypes (in general, not just gender stereotypes).

Should other Universities be interested in implementing this program, we will be open for a future collaboration with the institution. Further, our project might generate hypotheses for other researchers in the field of stereotypes and stereotype impact on evaluation, judgment etc.

We intend to raise the public awareness on the issue of gender stereotypes and their detrimental effects through advertising our project and its results (posters, handouts etc.). Many studies show that parents' stereotypes affect their children's choice of both line of study and career; therefore, the beneficial effects of changing gender stereotypes, on the long run, become clear.

The policy makers in the area will be informed on both the results of the program and on our availability to collaborate in order to implement the results in other fields of activity.

In order to disseminate these results on a larger scale, we intend to elaborate a manual presenting the program and its results; also, a web site will be set up where extensive information will be available both for members of the scientific and academic community, and members of the large public who are interested in the issue. Efforts will be made to distribute the manual throughout the academic environment and beyond it, to other areas where this information might be of interest. High school teenagers could benefit largely from such knowledge in their decision making concerning a career and line of study. The web site address will be made popular through multiple means (the manual, periodicals running in the universities and high schools etc.).

The problems identified in the "Babes-Bolyai" University are not unique; on the contrary, in numerous studies, very similar issues have been reported throughout Europe and beyond. Should this intervention be extended at a European level there would be only benefits to be gained from it. The issue of stereotype threat is common in such environments and this is rarely acknowledged. The anxiety that arises in such circumstances is due to the way the environment is perceived, therefore it cannot be solved through a direct intervention. We cannot simply decide to hire and promote, in a short time, a number of women large enough to eliminate both horizontal and vertical segregation. We cannot give up standards of quality, expertise and skills for the mere sake of gender numerical equality in all fields. Gender equality means that both women and men should have the same opportunities to choose a career and to be promoted in that career on the sole basis of competence, regardless of gender. Our proposal suggests a more realistic intervention. We aim at changing the environment, but not directly and swiftly. The environment consists of people, so we will change the individuals' cognitions (ideas) and, in time, the environment will change, too.

On the long run, implementing such a program in many different areas could contribute significantly to achieving a larger objective: ensuring gender equality in research and technological areas.



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