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Stereotype threat as a determinant of burnout or work engagement. Mediating role of positive and negative emotions

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Stereotype threat as an example of serious interpersonal strain at workplace can lead either to impaired work engagement or it can motivate workers to strengthen their efforts to disconfirm a stereotype and can result in excessive work engagement. Thus, the basic aim of the study was to examine whether stereotype threat is related to burnout or to work engagement. The mediating role of the negative and positive emotions were also tested in the classical approach. Mediation analysis revealed a linear relation of stereotype threat and burnout, mediated by negative emotions and a quadratic relationship between stereotype threat and work engagement. In the latter analysis none of the mediators were significant. Therefore, the results showed that both burnout and work engagement are associated with stereotype threat at the workplace, probably depending on the stage of response to the stereotype threat. Further research should confirm these associations in a longitudinal study.

Keywords: stereotype threat; burnout; positive emotions; negative emotions; work engagement

1. Introduction

Stereotypes, easily and automatically transmitted through society, may affect perception or external evaluation of stereotyped group members, leading to prejudice and discrimination. Steele and Aronson [1] were the first who demonstrated, in an elegant experimental design, a situational decrease in difficult academic test performance after negative stereotype activation in high performing Afro-Americans and named this phenomenon stereotype threat. In the very seminal work, they presented that, when Black students with high SAT scores were asked to solve a difficult test framed as diagnostic for verbal abilities, they performed worse in comparison to White students. Interestingly, when test was labeled as non-diagnostic, there were no differences between Black and White students' performances. In conclusion, researchers stated that cognitive activation of negative stereotypes about one's group causes stereotype threat – fear of confirming the negative stereotype with one's behavior, which in turn leads to lower academic performance.

Stereotype threat has been documented in numerous experimental studies in educational and academic settings and they showed that stereotype threat operates in many social groups and domains.[2] Its consequences are emotional – poor mental health, namely: an increase of arousal, negative emotions (anxiety, shame, aggression) and stress,[3–5] cognitive – lower performance in standardized tests, reduced working memory capacity,[6,7]

and attitudinal – lower identification with one's group [8] or lower identification with the domain.[9] Experiments showed that it elevates blood pressure,[10] compulsive eating and induces aggressive behavior.[11]

According to *stereotype threat model* [2] describing the mechanisms by which stereotype threat influences performance, it seems that negative stereotype activation affects performance due to a combination of different factors such as physiological arousal, stress, negative emotions and rumination, which in turn lead to reduced working memory capacity, impaired self-regulation and lowered expectations for performance in the domain and the lower test performance.

The vast majority of existing research on stereotype threat has focused primarily on its detrimental effects on cognitive performance in academic domain therefore there are only few studies demonstrating the negative impact of stereotype threat on occupational functioning. However, Kray et al. [12,13] examined gender differences in negotiations and they found that women in managerial positions performed worse when the negative stereotype about women being ineffective negotiators was activated. Similar results were obtained by Bergeron et al. [14] who examined women and men performing difficult managerial decision-making activity in Human Resources departments. Davies et al. [15] confirmed that exposure to the stereotypic commercials undermines women's aspirations on a leadership task. In the same vein, von Hippel

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et al. [16] showed that women experiencing stereotype threat in a workplace are more engaged in social comparisons to men and in consequence they separate their identity from work and feel a lack of belonging in the workplace, lower perceived likelihood of reaching career goals and lower job satisfaction. Research has further demonstrated that stereotype threat weakens workers' identification with organization, increases self-handicapping and intention to quit or retire, reduces their aspirations and willingness to learn new technologies. [17–20]

Although there have been a great number of studies clearly demonstrating the immediate effects of stereotype threat, our understanding of other potential consequences of stereotype threat is still limited. The first attempt to predict the responses to the prolonged exposure to stereotype threat has been recently proposed in the model of long-term responses at work.[21] This mostly conceptual model posits a framework for describing responses to stereotype threat as a cycle starting from fending off the stereotype, then feeling discouraged by the stereotype and finally become resilient to the stereotype. Therefore, the first reaction to repeated stereotype threat experiences is to increase effort to overcome the stereotypical perception, to demonstrate that stereotype does not apply to the oneself. The second stage was called 'discouraged by stereotype threat', and one strategy used in this stage is disengagement that is an effect of ineffective effort expended in proving that stereotype is not relevant. This can also lead to negative emotions, such as anger or depression. A final stage, according to the model, is resilience to stereotype threat in which individuals can realize that stereotype threat will be present at the work environment but they redirect efforts to change the work settings not themselves. Although the model is still under empirical investigation, it provides an important framework for understanding reactions to repeated experiences of stereotype threat at the workplace and therefore it can be a good source of new hypotheses. On the basis of the above-mentioned model we assume that prolonged exposure to stereotype threat at work, being a kind of interpersonal strain, may lead to burnout and work dissatisfaction. This reasoning may be also supported by the notion that burnout is considered as the most popular concept representing negative psychological reaction towards demanding and difficult relationships with other people at work.[22–24] Additionally, workplace unfairness, which may be experienced by females in stereotype threat situations, is an early predictor of burnout and negative/destructive feedback may prompt retaliation, hostility and cynicism.[24]

Originally, burnout was applied exclusively to human service workers, resulting from frequent and emotionally demanding interactions with recipients. Later on, this phenomenon was extended across different work contexts and redefined as a syndrome consisting of three dimensions: exhaustion, cynicism and reduced personal

accomplishment.[25–28] Exhaustion is understood as a depletion of one's emotional resources; cynicism – as a negative, detached and depersonalized attitude towards one's work; reduced personal accomplishment – as an inefficacy to feeling competent at work and unable to solve occupational problems.[27]

According to the job demands–resources model of occupational stress, burnout is an effect of a depletion of one's emotional resources resulting from prolonged effort to accommodate or withstand demands/difficulties; mostly of an interpersonal nature.[29]

In the same vein, we hypothesize that stereotype threat at the workplace may not only be related to negative emotions leading to burnout, but it can also be related to work disidentification leading to a decrease in work engagement. Work engagement is defined as 'a positive, fulfilling, work-related state of mind that is characterized by the three different dimensions, such as vigor, dedication and absorption'.[27, p. 74] Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work and persistence in the face of difficulties. Dedication is characterized by enthusiasm, inspiration, pride and challenge. The third feature of engagement – absorption indicates that a worker is fully concentrated and engrossed in one's work. It has been confirmed that engaged workers are more creative, more productive and more willing to go the extra mile.[30] There are two main approaches to conceptualize work engagement. First, it has been considered as a direct opposite of burnout.[25] According to this view, work engagement is characterized by energy, involvement and efficacy, which is opposite to exhaustion, cynicism and lack of efficacy, respectively – the three constituting elements of burnout.[25]

According to the alternative view, work engagement is considered independently from burnout. Thus, contrary to those who suffer from burnout, engaged employees have a sense of energetic and effective connection with their work activities.[30] In this alternative view, work engagement and burnout are considered distinct and negatively related constructs, however, Demerouti et al. [30] proved that both burnout and work engagement have similar outcomes, such as organizational commitment and mental health.

2. Aim of the study

Since the conceptual model of a long-term response to stereotype threat at work, the preliminary aim of the study was to examine whether stereotype threat experiences are positively related to burnout and negatively to work engagement. This hypothesis was also based on the assumption that stereotype threat is an intensive interpersonal stressor for women, being related to higher level of negative emotions. According to *stereotype threat model* proposed by Schmader et al. [2], negative emotions are basic mediators of stereotype threat and its detrimental

behavioral consequences. Therefore, we included the level of negative emotions at work as a mediator of relationship between stereotype threat experience and burnout.

Secondly, stereotype threat can also lead to change in work engagement, as previous research has shown that women in stereotype threat situation may decrease effort and work motivation. However, loss in effort and work motivation should be driven by lack of positive emotions rather than negative ones therefore we decided to test two possible mediators: negative and positive emotions.

Given the abovementioned data into account, we formulate the following hypotheses:

H_0 : Stereotype threat is positively related to psychological burnout and negatively to work engagement.

H_1 : Negative emotions are mediators of the relationship between stereotype threat and burnout.

H_2 : Positive emotions are mediators of the relationship between stereotype threat and work engagement.

3. Method

3.1. Participants

The data for this study came from 60 Polish female workers working a full-time job in a furniture producing Polish company aged 22–55 years ($M = 34.48$, $SD = 8.23$). The sample consisted of 40% graduate workers and 60% workers with secondary education, 22% of the sample were managers and administrative staff while 78% participants were working as shop-assistants.

3.2. Measures

To measure stereotype threat experience, workers answered five items about their feeling to be evaluated through the lens of negative stereotypes by coworkers and subordinates (e.g., ‘My colleagues believe that I am less skilled and able because I am a woman’). Items were adapted from the study conducted by von Hippel et al. [16] and translated into Polish. Participants answered on a 7-point scale from 1 – *absolutely disagree* to 7 – *absolutely agree*. The overall index of stereotype threat level was calculated by averaging all items, therefore 7 was a maximum in the index. Reliability of this scale was moderate – Cronbach’s α equals .53 suggesting that reliability of this scale was moderate.

Psychological burnout was measured with six items adapted from the Polish version of *Maslach Burnout Inventory*. [31] They measure emotional exhaustion, depersonalization and inefficacy on a 7-point scale from 1 – *absolutely disagree* to 7 – *absolutely agree*. Reliability of this short scale was relatively good with Cronbach’s α equal to 0.76. As in the case of stereotype threat, burnout index was calculated by averaging all items, therefore 7 was a maximum value in this scale.

Positive and negative emotions were assessed with 20 descriptions of feelings and emotions: 10 for positive emotions (e.g., ‘proud’, ‘excited’) and 10 for negative emotions (e.g., ‘depressed’, ‘stressed’) taken from the Positive and Negative Affect Schedule – Expanded Form (PANAS-X) by Watson and Clark [32] in a Polish version constructed by Fajkowska and Marszał-Wiśniewska.[33] Participants were asked to rate their emotions and feelings at work on a response scale with 5 points from 1 – *not at all* to 5 – *strongly*. Comparably to the original English version and Polish normalization, Cronbach’s α for the negative emotion subscale was 0.89 and for positive emotions the subscale was 0.86. Thus, both subscales were highly reliable measures. Overall indexes were calculated by averaging responses to negative and positive emotions separately. Thus, the maximum score was 5 in both indices.

Work engagement was evaluated with two items taken from Meaningful Work Scale [34] using a 7-point scale from 1 – *absolutely disagree* to 7 – *absolutely agree*. We asked participants how important for them is it to work in the company and in their post. Because of the clear interpretation of the overall index, it was created by averaging participants’ responses, thus the maximum score was 7.

3.3. Statistical analysis

Two mediational analyses were conducted using classical four-step Baron and Kenny [35] approach, with bootstrapped confidence interval estimation of parameters as proposed by Preacher and Hayes [36] for burnout as a dependent variable. Because of the assumed quadratic relation between stereotype threat and work engagement, the MEDCURVE mediational procedure, proposed by Hayes and Preacher [37] was used. In each mediational model, stereotype threat is an independent variable, while burnout and work engagement are outcome (dependent) variables. Positive and negative emotions were entered as mediators of relationships between stereotype threat and burnout and work engagement. Thus, the causal mediational model is as follows: stereotype threat is presumed to cause negative emotions or lack of positive emotions, which in turn is presumed to cause change in burnout or work engagement.

4. Results

4.1. Descriptive statistics

There are a total of 58 observations with no missing data. The means and standard deviations are presented in Table 1.

4.2. Relationship of stereotype threat with burnout – mediational role of negative emotions

The results of the four Baron and Kenny [35] steps are as follows. The direct effect of stereotype threat on burnout is equal to 0.42 ($p = .002$), with a 95% CI [0.157, 0.682]

Table 1. Descriptive statistics for stereotype threat, positive emotions, negative emotions, burnout and work engagement.

Variables	Means	SD
Stereotype threat	3.255	1.016
Burnout	3.615	1.083
Work involvement	4.362	1.344
Negative emotions	1.569	0.557
Positive emotions	3.180	0.682

and a medium effect size ($r = .39$). Step 1 has been passed. The effect of stereotype threat on negative emotions is equal to 0.23 ($p = .001$), with a 95% confidence interval of 0.097 to 0.363 and a medium effect size ($r = .42$). Step 2 has been passed. The effect of negative emotions on burnout controlling for stereotype threat is equal to 0.56 ($p = .031$), with a 95% confidence interval of 0.052 to 1.071 and a moderate effect size ($r = .29$). Step 3 has been passed. The effect of stereotype threat on burnout controlling for negative emotions or path c' is equal to 0.29 ($p = .042$), with a 95% confidence interval of 0.011 to 0.570 and a moderate effect size ($r = .27$). Step 4 has been passed. A mediational diagram for standardized estimates is contained in Figure 1. Similar conclusions were obtained by the indirect analysis. The indirect effect of stereotype threat on burnout is equal to 0.13, with a small effect size ($R^2 = .11$), and the direct effect is equal to 0.29. As stereotype threat increases by one unit, burnout increases by 0.56 units. The percentage of the total effect is equal to 30.80%. The mediator is said to be 'proximal'. [36] The bootstrap estimated indirect effect is 0.13 ($p = .015$) with a standard error of 0.059. [38] The 95% bias corrected bootstrap confidence interval (5000 trials) is from 0.037 to 0.284, and because zero is not in the confidence interval, it is concluded that the indirect effect is different from zero. For the indirect effect, as stereotype threat increases by one unit, burnout increases indirectly via negative emotions by 0.13 units. There is evidence of partial mediation of the effect of stereotype threat on burnout given that the indirect effect is statistically significant.

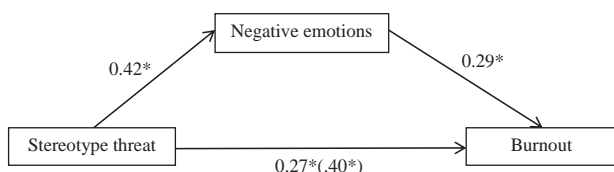


Figure 1. Mediation diagram with standardized coefficients for relationships between stereotype threat and burnout with negative emotions as mediator.

Note: regression coefficient in bracket is for direct path of stereotype threat and burnout, * represents significance level $p < .05$.

4.3. Relationship of stereotype threat with burnout – mediational role of positive emotions

Again, mediational analyses was conducted in the four Baron and Kenny [35] steps. The results are briefly summarized in Figure 2. As in previous analyses, the direct effect of stereotype threat on burnout is equal to 0.40 ($p = .001$). The effect of stereotype threat on positive emotions is equal to 0.01 ($p = .918$) which means that step 2 has not been passed. The effect of positive emotions on burnout controlling for stereotype threat is equal to -0.48 ($p = .010$), with a 95% confidence interval of -0.837 to -0.116 and a medium effect size ($r = -.33$). Step 3 has been passed. The effect of stereotype threat on burnout controlling for positive emotions is equal to 0.43 ($p < .001$), with a 95% confidence interval of 0.194 to 0.667 and a medium effect size ($r = .44$). Positive emotions are not a mediator of the relation between stereotype threat and burnout, because stereotype threat is not associated with positive emotions. Both stereotype threat and positive emotions are independent predictors of burnout: stereotype threat is positively correlated with burnout, while positive emotions are negatively correlated with burnout.

4.4. Stereotype threat and work involvement – mediational role of negative emotions

In the first step we tested nonlinearity and the tests are as follows: the quadratic effect of stereotype threat on work engagement is 0.32 and is statistically significant ($p = .029$). Therefore, because of concerns about the nonlinear direct effect, the MEDCURVE mediational procedure [37] was involved in testing negative emotions as a mediator of stereotype threat and work engagement relation. In the MEDCURVE procedure one can define the relations between variables as nonlinear, so we defined the relation of stereotype threat and work engagement as quadratic. Stereotype threat was significantly related to negative emotions ($b = 0.33$; $p < .001$, $R^2 = .23$), and significantly related to work engagement ($b = 0.34$; $p < .001$ for quadratic trend and $b = -2.02$; $p < .001$ for linear trend), but there relation between negative emotions and work engagement was not significant ($b = -0.01$; $p = .99$). Therefore negative emotions are not a mediator of the

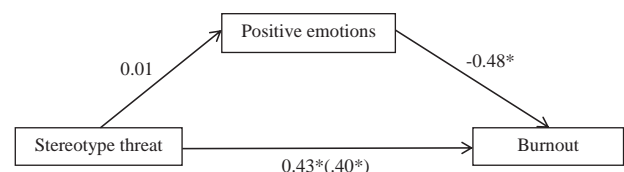


Figure 2. Mediation diagram with standardized coefficients for relationships between stereotype threat and burnout with positive emotions as mediator.

Note: regression coefficient in bracket is for direct path of stereotype threat and burnout, * represents significance level $p < .05$.

relation between stereotype threat and work engagement although stereotype threat is a significant predictor of the latter. This relation is quadratic and negative which means that both low and high level of stereotype threat is related to a higher level of work engagement.

4.5. *Stereotype threat and work engagement – mediational role of positive emotions*

Again, the MEDCURVE procedure was used to analyze the mediational role of positive emotions in stereotype threat and work engagement relation.[37] Stereotype threat was significantly related neither to positive emotions ($b = 0.01$; $p = .91$), nor to work engagement ($b = 0.14$; $p = .21$ for the quadratic trend and $b = -0.85$; $p < .26$ for the linear trend). The only significant relation was between positive emotions and work engagement ($b = 1.10$; $p < .001$, $R^2 = .38$). Therefore, positive emotions are not a significant mediator of the relationship between stereotype threat and work engagement although positive emotions are significant predictor of work engagement. Higher positive emotions are associated with higher level of work engagement.

5. Discussion

Although, previous research on stereotype threat has focused primarily on its detrimental effects on performance across a wide range of domains, relatively less work has explored other potential consequences of stereotype threat, particularly in the workplace, where being in the demographic minority invokes strong perceptions of stereotype threat. Our findings extend the existing knowledge by showing that stereotype threat is a significant determinant of workers' burnout. To date, previous studies on burnout have focused mainly on its negative predictors, namely job resources, such as constructive feedback, social support and coaching from supervisors. Numerous studies have shown that burnout is less likely to occur in a supportive work environment.[22–26,38].

Our study is thus the first one to reveal burnout as a potential risk of stereotype threat among female workers and it confirms that although organizations are becoming increasingly diverse, stereotypes concerning women still exist in the workplace. Data obtained in Western European countries proves that women experience more barriers, have fewer progression opportunities and earn less than their male counterparts in top executive roles.[39]

Our finding relating to burnout, and particularly to its aspect associated with reduced personal accomplishment, feeling incompetent at work and inability to solve occupational problems in female workers experiencing high levels of stereotype threat, is in line with the data provided by von Hippel et al.[16] In their study, stereotype threat was

associated with decreased perceived likelihood of achieving career goals, reduced job satisfaction and elevated intentions to turnover.

It has also been found in our study that negative emotions are significant mediators between stereotype threat and burnout. This outcome has been confirmed by many studies concerning emotional mediators of stereotype threat. For instance, Osborne [40] showed that anxiety was a significant mediator of stereotype threat in seniors' performance on standardized verbal and math tests. Similar results were obtained by Bosson et al. [41] who revealed that non-verbal anxiety was a mediator on the effects of stereotype threat on childcare skills of gay and heterosexual men. Matheson and Anisman [5] showed in their laboratory study, negative emotions, namely anger, were predominant in the stereotype threat situation when female participants were given negative feedback on a creativity task and were led to believe their failure on the task was because of gender discrimination. Some other research has also pointed to anger (towards environment and oneself) as the primary emotion elicited from being the target of discrimination.[11,42–44]

We have also assumed in our study that stereotype threat may lead to lower work engagement. We obtained an interesting result showing that both low and high stereotype threat was related to a higher level of work engagement in our sample. The curvilinear relationship between stereotype threat and work engagement points to two different possible responses to stereotype threat: one is an increased, higher level of work engagement, the other response represents disengagement or low level of engagement. These two types of responses have been described by Block et al. [21] in their model of long-term responses to stereotype threat at work as a fending off the stereotype and discouraged by the stereotype phases.

Some researchers strongly advocate for burnout as a negative opposite to work engagement,[30] In our study, similarly to Block et al.'s [21] framework, strong negative emotions have been observed in this set of responses to stereotype threat. According to this framework, a final stage in reacting to stereotype threat may be 'recovery, in which disappointments are no longer as relevant and behavior is redirected toward another goal'. The authors name this set of responses to stereotype threat as 'resilient to the stereotype'. This stage involves not only the capacity to recover but also the ability to 'bounce back' beyond the initial setback. However, in this stage, individuals who resolve to challenge stereotypes may demonstrate a slight decrease in task engagement because they are more focused on challenging the stereotype than they are on their own performance, which could reinforce the stereotype threat if their performance is detrimentally affected.[45] This response could be mirrored in our study by the effect of increased work engagement when stereotype threat

is high. The confirmation of this cycle of responses to stereotype threat, requires longitudinal study with several measurements.

6. Concluding remarks

We have shown in our study that stereotype threat in the workplace is significantly related to both burnout and work engagement of female workers. However, since burnout is mediated by negative emotions and work engagement is not mediated by positive ones, we assume that both of them have their detrimental effects on working women. As we assumed, work engagement observed in our study has mostly its defensive role – increasing effort to disconfirm stereotype.

These findings have implications for organizations and employees themselves. Employees who are burnt out – express negative emotions and emotional exhaustion – are less able to work to their potential and therefore they confirm negative stereotypes about their groups. As disengaged employees or engaged mostly to combat stereotype, they are less satisfied and committed to their jobs and have greater intentions to quit.[46–48] Negative job attitudes and high turnover intentions incur significant costs to organizations, in financial terms due to reduced productivity and efficiency.

The current findings also have important consequences for the employees themselves. Employees who are dissatisfied are less able to work to their potential [49,50], thus diminishing their opportunities for career progression compared to satisfied employees. If stereotype threat is related to less favorable work attitudes, stereotypes about women's abilities in the workplace may be amplified and self-perpetuated. In this way, stereotype threat may create a vicious cycle that maintains and exacerbates the observed under-representation of women in male-dominated fields. They may also be specially prone to other health problems related to burnout such as depression. It has been found that recovery from burnout is possible with the help of motivational interventions, but some symptoms may persist over a long time.[51]

Taken together, these findings suggest that stereotype threat may have important consequences in the workplace for employees and their clients. As such, stereotype threat should be a real concern for the organizations and their workers. The three categories of strategies can be implemented by organizations to reduce stereotype threat: (a) stereotype management, which includes acknowledging stereotypes, (b) emphasizing positive stereotypes and deemphasizing negative stereotypes; fostering identity safety and valuing effort, (c) increasing minority representation. Several experiments have shown that the effects of stereotype threat can be eliminated when people under this threat are reminded about highly competent representatives of their own gender or race who work as a role-model (e.g., Barack Obama, women who are excellent at math,[52,53]

or about their own competence in the threatening domain through self-affirmations.[54,55]

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Supplemental data and research materials

Requests for reprints should be sent to Sylwia Bedyńska.

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