



A REVIEW OF ACCEPTANT RESPONSES TO STEREOTYPE THREAT: PERFORMANCE EXPECTATIONS AND SELF-HANDICAPPING STRATEGIES**

KALIP YARGI TEHDİDİ'NE KABULLENİCİ YANITLAR ÜZERİNE
BİR DERLEME: PERFORMANS BEKLENTİLERİ VE KENDİNİ
SABOTE ETME STRATEJİLERİ

Abdulkadir KUZLAK

Arş. Gör., Orta Doğu Teknik Üniversitesi, Fen-Edebiyat Fakültesi,
Psikoloji Bölümü, kuzlak@metu.edu.tr

Makale Bilgisi

Gönderildiği tarih: 4 Ağustos 2017
Kabul edildiği tarih: 11 Kasım 2017
Yayınlanma tarihi: 27 Aralık 2017

Article Info

Date submitted: 4 August 2017
Date accepted: 11 November 2017
Date published: 27 December 2017

Anahtar sözcükler

Kalıp Yargı Tehdidi; Performans Beklentisi; Kendini Sabote Etme; Aracı Değişkenler; Derleme

Keywords

Stereotype Threat; Performance Expectations; Self-Handicapping; Mediating Variables; Review

DOI: 10.1501/Dtcfder_0000001559

Abstract

Many minority group members underperform when negative performance related stereotypes about their group are salient. This provisional predicament can be explained by Stereotype Threat which assumes that performance decrements after negative stereotype prime is sourced from the reactions of individuals not confirming the stereotype. However, the results occur in line with the primed stereotype inspite of the effort of individuals. This paper offers another explanation on how evoked negative performance stereotypes affect individuals. Specifically, it is proposed that stereotype evoked individuals might also accept those posed negative stereotypes with the mediating roles of performance expectations and self-handicapping strategies rather than reacting to them. For that purpose, the current paper will put forward a general review of Stereotype Threat, evidence for acceptant variables, and possible limitations of offered explanation.

Öz

Birçok azınlık grubu üyesine, kendi gruplarının performansıyla ilgili olumsuz kalıp yargılar hatırlatıldığında, performanslarında düşüşler görülmektedir. Bu durum, bireylerin olumsuz kalıp yargıların yanlış olduğunu göstermeye çalışırken verdiği tepkiler neticesinde oluştuğunu varsayan Kalıp Yargı Tehdidi ile açıklanabilir. Ancak, bireylerin bu çabasına rağmen, sonuç, kalıp yargılar doğrultusunda gerçekleşir. Bu makale, hatırlatılan olumsuz kalıp yargıların bireyleri nasıl etkilediğine dair farklı bir açıklama önermektedir. Buna göre, kendilerine kalıp yargılar hatırlatılan bireyler, bu yargılara tepki göstermektense, performans beklentileri ve kendini sabote etme stratejilerinin aracı etkileriyle bu yargıları kabullenmektedirler. Bu amaçla, bu makale, Kalıp Yargı Tehdidi'nin genel bir derlemesini yapacak, kabullenici değişkenlerin varlığını gösterecek ve önerilen açıklamanın sınırlılıklarından bahsedecektir.

The problem of underperformance of minority group members, namely women, African-Americans, Hispanic-Americans, and many others, in areas from academic to sports is one of the most crucial issues not only of Social Psychology but also of civilization. In order to understand and resolve this problem, a phenomenon called Stereotype Threat (ST) was introduced about 20 years ago (Spencer, Steele and Quinn 11; Steele 620; Steele and Aronson 805). The basic assumption of the ST is that when a negative stereotype about one's group is primed, whether subtly or blatantly, the members of such groups experience a pressure not to confirm or be judged by the posed stereotypes and react to disprove it. However, the performance occurs in line with these stereotypes.

* A modified version of this paper was presented in author's PhD Proficiency Exam at Middle East Technical University, Psychology Department, Ankara, Turkey.

* I thank Nuray Sakallı-Uğurlu, Banu Cingöz-Ulu, Nebi Sümer, Gül Günaydın, and İrem Uz for their helpful comments for the draft of this article.

Some findings (Keller and Bless 537; Lesko and Corpus 116; Stone 1671) suggest that the basic assumption of ST, trying to disprove ST, might not always valid and even reverse could happen. This paper will discuss possible acceptant responses after ST and propose another explanation to define and understand how ST affects individuals with the contributing roles of such responses. For this purpose, a general review of ST will be provided to comprehend what ST is and how its relations formed with dependent variables, mediators, moderators, proposed models, interventions, and critics. After that, a section will be reserved to variables forming an acceptant pathway from ST to performance. Finally, the proposition of the paper and ST will be discussed with their limitations and contributions.

A General Review of Stereotype Threat

Stereotypes are beliefs shared by the majority of society about the characteristics of persons or groups. Stereotypes about the underperformance of specific minority groups throughout the world are common and might imply women, Hispanic-Americans, and African-Americans as less competent in math related tests.

ST, on the other hand, is the social psychological definition for the effects of situational negative stereotypes on the performance of individuals and is one of the explanations of the performance gap between majority and minority. Understanding ST may help decrease this gap, so it is crucial to study ST effects. Furthermore, ST research is important in a way that it confronted the efficiency of classical test measurements as indicators of competence by showing that both effects of nurture and nature, i.e. genetics, might be eliminated in testing environment if one gets aware that negative stereotypes (e.g. men are better than women in math) about belonged group exist.

ST effect was tested on various groups and revealed significant results. After ST exposure, women performed worse than men in math test (Spencer, Steele and Quinn 12), men performed worse than women in social sensitivity task (Koenig and Eagly 492), verbal test scores of African-Americans decreased (Steele and Aronson 805), childcare performance of gay men dropped (Bosson, Haymovitz, and Pinel 251), women business students asked for lower aspiration salary than men business students (Tellhed and Björklund 190), in short, stereotype primed individuals performed worse than non-stereotyped individuals or stereotype-nullified members of their own group. These results also show that almost everyone

lives with the threat of stereotypes and various kinds of daily and academic performances are prone to decrements that are results of negative stereotypes.

As plenty of studies showed, ST effect is valid on many seemingly unrelated performances from math (Spencer, Steele and Quinn 12) to playing golf (Beilock et al. 1065) to childcare (Bosson, Haymovitz, and Pinel 251). Yet, ST does not only affect performance of individuals but also decreases their intention to identify and engage with the stereotyped domain (Cheryan, Meltzoff, and Kim 1831; Fogliati and Bussey 316), heightens rejection concerns of partners (Wout, Murphy, and Barnett 848), and risk aversion (Seibt and Förster 46). Besides, ST impairs job related aspects of individuals by increasing burnout in work environment via the effect of increased negative emotions (Bedynska and Zolnierczyk-Zreda 6) and decreases well-being at work and recommendation of worked sector to others (von Hippel, Sekaquaptewa, and McFarlane 409).

Three types of STs are commonly used in the literature, namely blatant, moderately explicit, and subtle. Blatant STs are explicit primes of negative stereotypes of subgroups via an apparent message to test takers that the subgroup is inferior in the subsequent test. Moderately explicit primes convey a message stating performance differences between groups exist but the direction of difference is not mentioned. Finally, subtle primes of ST do not imply group performance differences openly but an implicit cue regarding such differences could be conveyed to the participants (Nguyen and Ryan 1320; Quinn and Spencer 62; Smith and White 186). Subtle STs, like blatant and moderately explicit ones, are effective because one perceives a possibility of devaluation of her/his group by others who are present in the environment, others who are imaginary or physical properties of the environment. Solo-status, which is being the only group member in an environment consisting of other group members, triggers such subtle ST (Keller and Sekaquaptewa 1048) and also, stereotype-inducing cues in the environment (Cheryan, Meltzoff, and Kim 1831).

Moreover, when the type of ST is subtle, it produces larger effects sizes compared to blatant ST (Nguyen and Ryan 1320) on task performance measurements, because performance is directly affected by threat when it is under conscious (i.e. subtle) (Levy 1099) and when it is blatant, exposed individuals may consciously respond to it. Besides, blatant and subtle STs were found to affect performance differently, via a dual process (Stone and McWhinnie 448). When ST was delivered to participants blatantly, prevention focus increases, in turn, it

disrupts performance by interrupting the fluid processes that enable successful performance. Subtle ST cues, on the other hand, operate as distractions for cognitive capacity and decline in this capacity decreases performance on the aspects of tasks that require working memory.

On the other hand, variables affecting the strength or direction of ST effect on performance, i.e. moderators, were many times studied and might help explain how ST works even further. These studies revealed that increases in domain identification, which is the level of belongingness to the stereotyped area, increases ST effects which were indicated by decreased performance (Cadinu et al. 271). Although results are mixed, test difficulty moderates the effectiveness of ST as increased test difficulty could increase ST effect (Steele and Aronson 804; Steele, Spencer, and Aronson 395).

Effects, types, and moderators of ST and its effects on various groups were covered so far. Since ST causes unwanted effects on individuals, many studies also focused on how this effect can be diminished. For that purpose, many intervention studies were performed and researchers came up with several interventions. Besides, ST is criticized by some researchers as overemphasizing the importance of situational stereotype primes and by some replication failures.

Stereotype Threat Reviews, Interventions, and Critics

These countless studies about ST gave rise to many reviews. One of the pioneering of them was produced by Wheeler and Petty (815) in which they addressed ST as a self-stereotype and evaluated it as hot meaning that it has motivational strength on individuals. But, other-stereotypes, stereotypes related with other groups, has cold processes, namely cognition. They also stated the effects of implicit-explicit types of stereotypes on behavior which are named as subtle and blatant, respectively, in today's ST research. In recent years, many reviews dealt with ST effects on limited aspects such as on immigrants (Appel, Weber, and Kronberger 7), on adolescent and children girls (Flore and Wicherts 33), on elder people (Lamont, Swift, and Abrams 187) and recently about the sources, mechanisms, consequences, and interventions of ST (Spencer, Logel, and Davies 426). Other than these reviews, a meta-analysis was produced to compare the effect of stereotype nullification on Hispanic- and African-Americans and revealed that such nullifications moderately increased the performance of stereotype-threatened individuals (Nadler and Clark 880).

The limitation and the missing part of ST reviews are that they have relatively narrow and group-based focus, especially in recent years. This makes these reviews mostly not to focus on how ST works with its mediators and moderators but to explain how ST works on specific groups. Reviewing such studies might help researchers who focused on studying such specific groups, however, the common mechanisms of ST may not be revealed. ST models, on the other hand, mostly deal with how ST works and covers various variables that act as a mediator and moderator between ST and its outcomes. However, they mostly take for granted the basic assumption of ST, which is reactance explanation, and built their model based on that. Of course, some models tap into avoidant motivational aspects of ST but they do not consider self-handicapping and performance expectations as major variables rather they use regulation of motivation as the major explanation for how ST works.

Inspiration of role models (e.g. Ada Lovelace, first computer programmer) (McIntyre et al. 307), prior positive contact history with the majority group (Abrams, Eller, and Bryant 697), changing the mind of individuals on how intelligence works (Good, Aronson, and Inzlicht 655), and making individuals aware that ST and its consequences exists (Johns, Schmader, and Martens 177) were some of the interventions removing side effects of ST. However, possible interventions targeting mediating mechanisms, such as ones offered in this paper, might help to eliminate consequences of ST as much as those interventions. Because mediators are constructs both related with independent and dependent variables. Also, it is more difficult to remove stereotypical ideas from society than to educate “individuals” about overcoming ST exposure considering that stereotyping toward others develop very early in age (Kelly et al. 34) and stereotypes have functions such that they ease processing, identification, and prediction of information both for social groups and for individuals (Tajfel 153). That is, interventions need not focus on eliminating ST but on mechanisms of it.

ST is a robust phenomenon which was tested in laboratories (Tellhed and Björklund 189), in field settings (Keller and Dauenheimer 376; Keller 196), via online surveys (Rice 291) and revealed meaningful results. However, ST is not the ultimate explanation for performance inequalities. In their review, Stoet and Geary (98) proposes that acknowledging ST research as the major explanation of gender gap in math performance might be misleading and interventions decreasing this gap need not only focus on ST but also on other possible reasons such as

differences between genders in 3-D spatial dimension (Geary 295) and sympathy to social areas (Ferriman, Lubinski, and Benbow 524). Beyond that, whole ST research was criticized as misinterpreting the performance differences between White and African-Americans which was depicted in Steele and Aronson (805) study (Sackett, Hardison, and Cullen 11).

ST research was also criticized by replication studies which are becoming increasingly popular in psychological science (Cheung et al. 755; Hagger et al. 554). One study attempting to replicate ST effect on school aged girls failed to find an effect even different types of STs were used (e.g. implicit) (Ganley et al. 1892). Authors offered two explanations on why some studies fail to find a ST effect. The first reason could be that ST has limited effect and the second reason could be that ST effect is always present meaning that ST saliency does not change anything.

One of the most cited ST studies (Shih, Pittinsky, and Ambady 81) was also replicated twice. The first replication found the same pattern only when participants who do not know about race or gender stereotypes are considered (Gibson, Losee, and Vitiello 197). The second one did not even find a significant ST effect with or without participants who know about the stereotypes (Moon and Roeder 200). These replications suggest that ST effect could be limited due to some fully undiscovered circumstances.

In summary, models portraying how ST works covered several mediators, moderators, and outcomes of ST. Working memory (Schmader and Johns 445), physiological stress (Ben-Zeev, Fein, and Inzlicht 177), performance monitoring (Seibt and Förster 46), prevention focus and situational interest (Smith, Sansone, and White 106), sense of belonging to the domain (Cheryan, Meltzoff, and Kim 1830), motivation toward the domain (Fogliati and Bussey 317; Kiefer and Sekaquaptewa 828) were some of the comprised variables. However, these models missed or partly covered many ST outcomes and mediators either due to focusing on some specific kinds of literatures (i.e. motivation) to explain ST or due to considering some mediators as not critical to understand ST. Some of these missing variables included self-handicapping (Keller 196; Stone 1674), strategy reduction (Hess et al. 7), and self-doubts (Dardenne, Dumont, and Bollier 771). One of the contributions of the present study is to integrate these inadequately covered variables into ST mechanisms in a review. These models were formed with the assumption that ST imposed individuals try to disprove the ST but the current study offers that such individuals might be readily accepting negative stereotypes

about their group and their decreased performance might be a result of psychological variables that are stemmed from this acceptance.

Despite the criticisms and replication issues, ST studies continue with the concentration on various groups and task types showing that the propositions of it are valid and reliable.

Stereotype Threat Effect via Acceptant Responses

Heretofore, ST was investigated with the guide of critical review of its literature with emphasis on its consequences, mediating and moderating mechanisms, interventions, critics, reviews, and suggested models. Now a review covering acceptant responses will be put forward on why ST affects performance, mainly with the contributing roles of performance expectations and self-handicapping strategies which constitute an acceptant response pathway with the common characteristic of self-doubt.

Stereotype Threat and Performance Expectations

A ST prime does not only decrease the actual performance but the expectations of performance and confidence in abilities. Performance expectations can be operationally defined as items asking how well the participant thinks she/he will perform in upcoming task(s) or how well the participant believes she/he performed in the completed task(s). These items, as previously stated, also indicate the confidence level of participants for their abilities meaning they imply self-doubt level too. Performance expectations-actual performance relationship is expected to be in accordance with the stereotype threat that posed on individuals. Negative stereotype primes might decrease performance expectations and in turn decrease performance, whereas positive stereotype primes might increase performance expectations and in turn increase performance. These relationships remind a self-fulfilling prophecy meaning that beliefs, prophecies, or delusions may have the power of affecting individuals in a way that this influence is accepted by the individual as a fulfilment task and eventually individual begin to behave in the same direction of these prophecies. ST studies showed similar prophecy fulfilments (Cadinu et al. 272; Hess, Hinson, and Hodges 158; Steele and Aronson 805; Stone 1674). Some found performance expectations as a mediator between ST and performance while others failed to reveal its mediating role.

The mediating role of performance expectations between ST and performance was many times revealed. After a blatant ST, performance expectations of women, who are highly domain identified, decreased and in return a drop in actual performance occurred (Cadinu et al. 278). Again with a moderator effect, mediating role of recall expectations of elderly in the negative relationship between blatant ST and recall performance was moderated by educational level with recall expectations were lower in those with higher education after ST (Hess, Hinson, and Hodges 161). In a negotiation setting, performance expectations were found to mediate moderately explicit ST and actual performance relationship (Kray, Galinsky, and Thompson 394). In another study, the relationship between blatant ST and performance expectations was mediated by performance avoidance goal adoption meaning that increased performance avoidance decreased expected performance after ST prime (Smith 293). Actually, negative relationship between performance avoidance and performance expectations was revealed in many other studies after subtle STs (Smith, Sansone, and White 99-114; Smith and White 179-191).

Although some studies revealed a blatant ST and performance expectations relationship and others subtle ST and performance expectations relationship, only study investigated the difference between subtle and blatant ST and performance expectations relationship at once revealed a relationship between subtle ST and performance expectations but did not reveal a relationship between blatant ST and performance expectations (Sekaquaptewa and Thompson 71). These findings complicate the ST type – performance expectation interaction and can be concluded that ST – performance expectations relationship is not yet fully distinguished via ST types. On the other hand, domain identification, test difficulty, or relevance of stereotypes (Nguyen and Ryan 1321) could be tested whether they moderate subtle and blatant ST and performance expectation relationship. Since high domain identification could be a valid moderator for the relationship between any kind of ST and performance expectations.

Several more studies came up with ST effects on performance expectations. In a sports-related moderately explicit ST condition, performance expectations, as measured by guessing to complete a course of strikes in a golf game, of Whites significantly decreased compared to Hispanics (Stone 1673). Other studies repeated this finding as moderately explicit ST decreased task performance expectations (Stangor, Carr, and Kiang 1194) and increased self-doubts, which is indicative of decreased confidence (Steele and Aronson 806). Even performance expectations

would not mediate the relationship between ST and its outcomes, it decreases motivation to pursue the stereotyped domain (Schmader, Johns, and Barquissau 846) and in that sense a mere ST effect on decreased performance expectations are worth taking into consideration.

Stereotype Threat and Self-Handicapping

Self-handicapping is a cognitive and defensive strategy for an upcoming potential failure both to protect self-esteem and to manage impressions of others. Individuals could create obstacles to protect their self-esteem from such potential failures (Rhodewalt, *Conceptions of Ability...* 77; Rhodewalt et al. *Self-Handicapping: The Role...* 127). These obstacles could include blaming external effects as reasons for poor performance (Berglas and Jones 411; Steele and Aronson 806; Stone 1672) so that failure might not be attributed to the self. The strategic use of self-handicapping, impression management, is also common (Kolditz and Arkin 497) yet, it may cause interpersonal drawbacks such that self-handicappers could be regarded as less admirable and aspirational especially when the handicap was implausible for the context (Rhodewalt et al. *Self-Handicapping and Interpersonal...* 1047). Individuals who think that others believe their position is not deserved would use strategic self-handicapping again for the purposes of impression management. Also, a tricky function and consequence of self-handicapping is that when success accidentally occurs, the ability on the domain would be augmented due to succeeding despite obstacles (Tice 717). However, such strategies do not maintain or increase performance but often decreases it.

Self-handicapping strategies can be divided into two categories, namely behavioral and claimed. An individual may attempt to injure her/his performance by behaving such as not studying, procrastinating and etc. or by claiming such that studying to the upcoming task was not realized, anxiety and etc. Actually, claimed handicaps are more beneficial for the individual than behavioral handicaps because they are less likely to impair performance compared to behavioral ones (Zuckerman and Tsai 422), possibly due to behavioral handicaps' direct effect (i.e. not studying for the exam) on performance. These two types of handicapping strategies also differ among genders. Women tended to use claimed self-handicapping strategies whereas men could use both claimed and behavioral ones (Hirt, Deppe, and Gordon 987).

From the early times of ST research, self-handicapping tendencies were observed among stereotype exposed participants. For instance, in the seminal article of Steele and Aronson (805), African-Americans evaluated difficult verbal

tests as unfair, which is indicative of self-handicapping, after a subtle ST compared to Whites and generated the highest amount of words related with self-doubts which was considered a key tenet for self-handicapping (Arkin and Oleson 346).

Several more studies revealed self-handicapping responses when participants faced with negative performance related stereotypes about their belonged group. A blatant kind of ST was found to increase self-handicapping, measured by perceived test difficulty, and in turn, self-handicapping decreased the performance of women in math test (Keller 195). In this study, perceived test difficulty was regarded as a self-handicapping strategy since it serves as an excuse function for the individual if she/he fails. Moreover, psychological engagement to the stereotyped domain moderated the effect of subtle ST on self-handicapping, measured by practice effort, which means an increase in engagement to the domain increased self-handicapping strategies after ST (Stone 1672). Stone's finding also demonstrates behavioral self-handicapping after ST which is not practicing for an upcoming sports task. The mediation analysis between ST and performance in this study was not realized because participants did not perform the actual task. In another study, a moderately explicit ST did also make participants decrease the validity of the test especially when participants are highly identified with the measured domain (Lesko and Corpus 117). These two studies show that since failing on an identified task could be more detrimental for the self, handicapping strategies could be understandably higher in highly identified individuals.

Blatant and subtle STs were found to differ on their effect on spent effort. Subtle ST was found to increase effort, participants try to disprove stereotype, but this only increased performance when the task is simple and decreased performance when the task is difficult. Whereas, blatant ST decreased effort and in turn decreased performance both in easy and difficult tasks (Skorich et al. 43). However, research shows that not all effort reductions can be regarded as self-handicapping. When individuals perceive that an upcoming task will be stressful, they may want to preserve their resources for the actual task while working on filler tasks (Folkman and Lazarus 161). On the other hand, decreased effort after ST could not only be an indicator of mind-wandering (Mrazek et al. 1246) but also self-handicapping. These prove that indicators of self-handicapping should be carefully analyzed whether they are really "indicators of self-handicapping" by evaluating their functions in the corresponding study. If such indicators have a potential to be used as an excuse for possible low performance, they might easily be used by

participants as self-handicapping strategy, but if the context does not allow such indicators as low-performance excuses, they might not be used as a self-handicapping strategy but a reliable measure of psychological variables.

ST literature actually filled with responses acting in a self-handicapping manner. The effect of ST on elder workers creates such response in which a positive association between perceived ST and resign or retire desire was found in elder workers (von Hippel, Kalokerinos, and Henry 24). Although retiring is not a direct self-handicapping, it could be a self-injury and could be stemmed from self-doubts about abilities. Another minority group, African-Americans, showed increased self-handicapping, as measured by their performance attributions to test room temperature after they were exposed to a subtle ST which is being only African-American in a White group (Sekaquaptewa, Waldman, and Thompson 325). In another study, moderately explicit ST caused decreased reservation salary so that decreased salary request occurred (Tellhed and Björklund 191). Reservation salary is the expected minimum amount of fee during wage negotiation and studies show that setting higher reservation salary goals leads to higher wage negotiation outcomes (Huber and Neale 200).

Furthermore, a different kind of blatant ST, benevolent sexism prime, was found to increase self-doubts about abilities to implement the test by making women advocate inadequacy of women even in unrelated areas (Dardenne, Dumont, and Bollier 775) and increased self-monitoring and body shame in women which in turn caused future appearance management behaviors (Calogero and Jost 224). This could be related to increased tendencies to manage impressions with the help of self-handicapping in times of ST. Therefore, self-handicapping might have a role of protection for the self from potential negative social evaluations resulted from possible failures by accusing external factors.

Individuals may use anxiety as a self-handicapping strategy too, especially when it is feasible to have it (Smith, Snyder, and Handelsman 317). Participants were found to provide more positive feedbacks to targets when they used anxiety as a self-handicapping than when they used low exercise or drug deterioration (Rhodewalt et al. *Self-Handicapping and Interpersonal...* 1047). Hence, these findings further support the proposition that anxiety is one of the effective self-handicapping tools people might be using to protect self-esteem from likely failures and one of the most expedient ways to manage impressions.

Anxiety is also one of the most frequently spotted mediators between ST and its detrimental results. In general, ST, mostly blatant, was found to increase anxiety, whether it is reported or non-reported, and in turn anxiety decreased performance (Bosson, Haymovitz, and Pinel 251; Lu et al. 549; McGlone and Pfiester 126; Osborne 147; Spencer, Steele and Quinn 22; Swift, Abrams, and Marques 27). Reporting anxiety or behaving anxiously could help individuals both protect their self-worth and make others attribute potential failure to the anxiety. Since reported self-handicaps are less likely to decrease one's performance compared to behavioral self-handicaps, participants would be willing to do the first one after ST. In light of these findings, researchers should measure both behavioral and reported anxiety in order to be sure whether participants are reporting anxiety as part of a self-handicapping strategy or feeling really anxious. Also, participants filling the study materials should not be informed that there will be a testing regarding primed stereotypes and anxiety should be measured right before such tests.

Strategy reduction, on the other hand, can be used as a handicapping strategy in which individuals who are reminded of negative stereotypes about their group may want to put obstacles on their way. Although, strategy reduction may not be an impression management strategy, it might be used as a self-esteem protection strategy. Although a mediating relationship was not tested in their study, Quinn and Spencer (63) found that strategy formulation of women to solve hard math questions decreased when they are reminded about subtle negative stereotypes. Also, recall scores of elderly severely affected by a blatant ST and this relationship was mediated by decreased strategy use, namely mnemonic strategy (Hess et al. 7).

Although not always called with the name of self-handicapping, many studies show that self-handicapping is a widespread response of individuals when they face with a negative stereotype about their belonged group which also threatens their situational performance on upcoming tasks. Effort reduction (Stone 1671), invalidating the task (Lesko and Corpus 118), finding excuses such as room temperature (Sekaquaptewa, Waldman, and Thompson 325), evaluating the task as unfair (Steele and Aronson 805), heightened self-doubt (Dardenne, Dumont, and Bollier 772), evaluating the test as difficult (Keller 196), reporting increased anxiety (Lu et al. 541), strategy reduction (Hess et al. 7), and increased appearance management behaviors (Calogero and Jost 220) could be regarded as self-

handicapping responses after ST prime. Moreover, the positive relationship between domain identification and self-handicapping after ST is consistent with the purposes of self-handicapping, namely self-esteem protection and impression management. Increased identification could make self-esteem more contingent to the stereotyped domain and could also make impression management more important. In that sense, such individuals could readily prefer using self-handicapping strategies in times of a potential threat for their performance.

Self-handicapping, or self-injury, is the harmful consequence of ST on individuals who are exposed to negative stereotypes about their own group. One of the reasons of using self-handicapping after ST is that ST studies generally inform participants that their results will be compared with other test takers and will be public by this way (Kolditz and Arkin 495). This potentially creates an anxiety which then causes heightened impression management behaviors and self-esteem protection responses. Besides, high self-handicappers tended to evaluate the causes of events as sourced from external factors (Rhodewalt, *Self-Handicappers: Individual...* 86), not from stable ones such as ability. This further supports that individuals who are using self-handicapping strategies after ST could be prone to primes given in ST experiments which are external information sources.

Although ST affects performance, motivation, and identification with the group, understanding the intermediate mechanisms with these and ST via handicapping strategies might help to develop new interventions to reduce the effects of ST and might open a new field of study area to further uncover mechanisms of ST. In that sense, performance expectations and self-handicapping strategies are vital mechanisms to truly understand ST effect from a different perspective, namely acceptant responses perspective.

Discussion

In line with the main aim of ST research, this paper aimed to reveal how ST functions by offering a review covering acceptant responses to eliminate one of the most prevalent inequalities among minorities and majorities. This review consisted of acceptant variables as performance expectations and self-handicapping strategies. Many reviews were offered to uncover the complex structure of ST mechanisms (Appel et al. 7; Flore and Wicherts 33). However, as ST researchers suggest (Nguyen and Ryan 1324) and many existing reviews in the literature shows, ST research still need review and model studies combining research in the field to thoroughly comprehend how ST works since new studies are done regularly and

many frequently found variables were not included in previous review/model papers.

One should note that behaviors like reactions to ST are complicated ones and may not be explained via one or two variables. Many mediating and moderating mechanisms could be responsible for the outcomes of ST and this paper only tried to explain a small part of ST mechanisms, but not aimed to explain every detail of ST mechanisms. This small part included acceptant responses and showed that ST effects could be very diverse and might not be limited to reactant responses. Furthermore, considering that stereotypes exist very early in age (Hamlin, Mahajan, Liberman, and Wynn 592), and might seem basic part of human nature, understanding mediating mechanisms of ST effects could be more beneficial than offering interventions (i.e. role models) that are not related to existing mediating variables. Thus, the current review would help to alleviate such issues.

The major contribution of this review to the literature would be challenging the basic assumption of ST, which is reactance explanation, and opening a wide range of study areas for researchers to investigate the effects of ST. The reactance explanation states that after ST exposure individuals react to disprove the posed stereotypes about their belonged group but despite this struggle, the performance drops. Contrary to this explanation, variables included in the current paper are acceptant in nature. Besides, many of the variables covered in this review are already studied within ST research, but their acceptant role is not reviewed before.

Specifically, current review offered that priming negative stereotypes could decrease performance expectations (Cadinu et al. 278; Hess, Hinson, and Hodges 163; Knowles et al. 816) and increase self-handicapping strategies (Keller 196; Quinn and Spencer 64) and finally decreased performance outcomes likely to occur. Domain identification could moderate the effectiveness of ST on performance expectations and on self-handicapping strategies which means the higher the individual identified with the stereotyped domain, the higher the effect of ST on performance expectations and self-handicapping.

Self-doubt, on the other hand, is the core tenet of current review which is also the common feature of performance expectations and self-handicapping strategies. This further supports the assumption that performance expectations and self-handicapping strategies could be related constructs and candidates for a review of acceptant responses to explain ST mechanisms. The moderator, domain identification, on the other hand, was unique that moderated both the effect of ST

on performance expectations (Cadinu et al. 277; Hess, Hinson, and Hodges 164) and on self-handicapping (Lesko and Corpus 119; Stone 1673). In that sense, this mutual moderation again supports current review in a way that the same moderator works for two of the variables offered in the paper.

Studies show that performance expectations and self-handicapping strategies are affected both by subtle, blatant, and moderately explicit ST types. One should expect that blatant or moderately explicit STs should be the only predictors of self-handicapping and decreased performance expectations due to their impact on the conscious and their potential to evoke avoidance by implying threat explicitly. However, subtle STs are also effective in creating acceptant type of responses which indicates that individuals might be consciously getting aware of the threat of subtle stereotypes. This might be sourced from the possibility that those individuals are facing with such subtle negative stereotypes in their everyday life so they are highly familiar with it. Being familiar with subtle threats might make such individuals to easily recognize these subtle cues and process them in conscious level. As a result, these subtle threats are processed as if they are explicit and by this way they result in acceptant responses. Although these speculations are not tested within ST studies, they might well deserve studying to experimentally understand why subtle STs are causing acceptant responses.

There could be alternative explanations for the responses covered in this review. One of them is defensive pessimism, a cognitive strategy used to eliminate negative effects of potential failure on self-worth. It might be related to both performance expectations and self-handicapping strategies and might reunite these variables into a single variable, namely defensive pessimism. Individuals using defensive pessimism decrease their expectations when they face with an anxiety-provoking task or event so that they are less affected by possible adverse effects of anxiety. Although defensive pessimism means decreasing performance expectations, it differs from decreased performance expectations after ST which was reviewed in this paper. Because defensive pessimism actually does not lead to decreased performance as it happens after ST. Although, defensive pessimism and self-handicapping are strategies helping to cope with anxiety during the performance; the motivation behind defensive pessimism and self-handicapping differs too. Individuals using defensive pessimism have a desire for high performance, whereas self-handicapper does not have such motivation (Elliot and Church 379). Still, defensive pessimism could be related to ST since an anxiety-

provoking task is put forth by individuals but, performance expectations and self-handicapping strategies offered in this review are distinct constructs from defensive pessimism.

Finally, some replication studies showed that (Ganley et al. 1892; Gibson, Losee, and Vitiello 197; Moon and Roeder 200) ST effect could not always be found. There could be several reasons for replication failures. One explanation could be that ST has a restricted effect. Researchers tried different stereotype activation methods but could not find an effect (Ganley et al. 1892) might mean that ST effect is not about ST type but maybe characteristics of participants. Mother's attitudes toward gender stereotype, as researchers suggest, might be an important factor to induce ST effect (Tomasetto, Alparone, and Cadinu 946). When mothers have neutral stereotypes about gender, their daughters are affect by ST but not when mothers reject gender stereotypes. This could be one of the limiting conditions of ST effect. The other explanation could be that ST effect is always present so ST saliency or nullification does not change math scores of participants. This explanation is supported by the findings that regardless of conditions men participants outperform women participants in math tests. Another reason as stated by Shih and Pittinsky (336) on their commentary to replication failure of Moon and Roeder (200) could be using slightly different procedures while implementing the experiments. Moon and Roeder used experimenters of different races and genders but original study only used a single experimenter.

Besides, ST research still did not uncover which conditions are most effective in creating the ST effect. Also, ST is related with existing stereotypes so if study participants are some way guarded against such stereotypes or unaware of them (Gibson, Losee, and Vitiello 197), they cannot be affected by ST too. There is also publication bias (i.e. journals do not accept papers with null result) in ST studies (Ganley et al. 1892) because some dissertations, which could not find a significant effect, were not published. Such bias could be one of the reasons why ST mechanisms are not yet fully understood.

Limitations and Future Research

As previously stated, ST mechanisms could be very complex covering many cognitive (i.e. working memory), emotional (i.e. anxiety), behavioral (i.e. effort reduction), and motivational variables. Besides, ST is relatively new, has some replication failures, and still needs many studies to uncover how it affects

individuals via complex mechanisms. These characteristics of ST phenomenon easily make current review flawed in some aspects.

One of the limitations of this paper might be the unfinished studies about the mediators of ST effect and especially a final conclusion about whether performance expectations and self-handicapping are robust mediators. This makes our acceptant responses review probably lacking. Of course, if these variables are thoroughly tested in the future, the review proposed in this study might be updated or disregarded depending on the scope of new findings.

Not only current review but also ST research still lacks testing of many mediator candidates such as procrastination, neurological reflections of already found mediators (e.g. self-handicapping strategies, performance expectations), and affective variables (e.g. anger, sadness, pessimism, despair, and frustration). Such mediator candidates could be tested in the future and might support the acceptant responses explanation offered in this paper.

Offered variables in this review could also be tested in different testing environments, with possible moderators (i.e. test difficulty), test types (i.e. sports test), on different groups (i.e. African-Americans) to evaluate and find limitations of their explanatory strength. Also, ST effect can be investigated by using scale type measures other than priming such as Scale of Ethnic Experience (Malcarne et al. 156), which measures perceived ethnic discrimination, whose positive association with depression was found (Brittian et al. 47). Although this makes the definition of ST distorted by not measuring situational effects, assessing ST with measures would allow researchers to see long-term consequences of stereotypes and may adjust their research on situational ST effects by investigating maybe unthought-of variables.

The possible effect of ST on procrastination may be studied in the future too, because ST has been shown to induce performance avoidance goals (Smith, Sansone, and White 108), performance avoidance goals are positively associated with procrastination (Urdan 257) and procrastination is one of the basic self-handicapping strategies. Procrastination could be related to ST and even mediate the relationship between ST and performance since it is a behavioral self-handicapping strategy and likely to adversely affect performance.

Concluding Remarks

This study is crucial in a sense that it incorporates Stereotype Threat, various kinds of self-handicapping strategies, performance expectations, and domain identification variables to challenge the basic assumption of ST. Although the existing literature heavily relies on the basic assumption, which is reactance explanation, current paper shows that it is not the only explanation for responses after ST.

Of importance, researchers should be aware that ST is not only and/or perfect explanation for the performance gap between minority and majority group members (Sackett et al. 10; Stoet and Geary 98). Though, this does not decrease the importance of ST but helps researchers and policymakers to consider lots of other reasons for this performance gap. Hopefully, this study contributes some understanding to the efforts of such works to maintain equality not only in performance but in all aspects of humanity.

WORKS CITED

- Abrams, Dominic, Anja Eller, and Jacqueline Bryant. "An Age Apart: The Effects of Intergenerational Contact and Stereotype Threat on Performance and Intergroup Bias." *Psychology and Aging* 21.4 (2006): 691-702.
- Appel, Markus, Silvana Weber, and Nicole Kronberger. "The Influence of Stereotype Threat on Immigrants: Review and Meta-Analysis." *Frontiers in Psychology* 6 (2015): 1-15.
- Arkin, Robert M., and Kathryn C. Oleson. "Self-Handicapping." *Attribution and Social Interaction: The Legacy of Edward E. Jones*. Eds. John M. Darley and Joel Cooper. Washington, DC: American Psychological Association, 1998. 313-371.
- Beilock, Sian L. et al. "On The Causal Mechanisms of Stereotype Threat: Can Skills That Don't Rely Heavily on Working Memory Still Be Threatened?." *Personality and Social Psychology Bulletin* 32.8 (2006): 1059-1071.
- Ben-Zeev, Talia, Steven Fein, and Michael Inzlicht. "Arousal and Stereotype Threat." *Journal of Experimental Social Psychology* 41.2 (2005): 174-181.
- Berglas, Steven, and Edward E. Jones. "Drug Choice as a Self-Handicapping Strategy in Response to Noncontingent Success." *Journal of Personality and Social Psychology* 36.4 (1978): 405-417.
- Bosson, Jennifer K., Ethan L Haymovitz, and Elizabeth C. Pinel. "When Saying and Doing Diverge: The Effects of Stereotype Threat on Self-Reported Versus Non-

- Verbal Anxiety." *Journal of Experimental Social Psychology* 40.2 (2004): 247-255.
- Brittian, Aerika S. et al. "Do Dimensions of Ethnic Identity Mediate the Association Between Perceived Ethnic Group Discrimination and Depressive Symptoms?." *Cultural Diversity and Ethnic Minority Psychology* 21.1 (2015): 41-53.
- Cadinu, Mara et al. "Stereotype Threat: The Effect of Expectancy on Performance." *European Journal of Social Psychology* 33.2 (2003): 267-285.
- Calogero, Rachel M., and John T. Jost. "Self-Subjugation among Women: Exposure to Sexist Ideology, Self-Objectification, and the Protective Function of the Need to Avoid Closure." *Journal of Personality and Social Psychology* 100.2 (2011): 211-228.
- Cheryan, Sapna, Andrew N. Meltzoff, and Saenam Kim. "Classrooms Matter: The Design of Virtual Classrooms Influences Gender Disparities in Computer Science Classes." *Computers & Education* 57.2 (2011): 1825-1835.
- Cheung, I. et al. "Registered Replication Report." *Perspectives on Psychological Science* 11.5 (2016): 750-764.
- Dardenne, Benoit, Muriel Dumont, and Thierry Bollier. "Insidious Dangers of Benevolent Sexism: Consequences for Women's Performance." *Journal of Personality and Social Psychology* 93.5 (2007): 764-779.
- Elliot, Andrew J., and Marcy A. Church. "A Motivational Analysis of Defensive Pessimism and Self-Handicapping." *Journal of Personality* 71.3 (2003): 369-396.
- Ferriman, Kimberley, David Lubinski, and Camilla P. Benbow. "Work Preferences, Life Values, and Personal Views of Top Math/Science Graduate Students and the Profoundly Gifted: Developmental Changes and Gender Differences during Emerging Adulthood and Parenthood." *Journal of Personality and Social Psychology* 97.3 (2009): 517-532.
- Flore, Paulette C., and Jelte M. Wicherts. "Does Stereotype Threat Influence Performance of Girls in Stereotyped Domains? A Meta-Analysis." *Journal of School Psychology* 53.1 (2015): 25-44.
- Fogliati, Vincent J., and Kay Bussey. "Stereotype Threat Reduces Motivation to Improve." *Psychology of Women Quarterly* 37.3 (2013): 310-324.
- Folkman, Susan, and Richard S. Lazarus. "If it Changes it must be a Process: Study of Emotion and Coping during Three Stages of a College Examination." *Journal of Personality and Social Psychology* 48.1 (1985): 150-170.

- Ganley, Colleen M. et al. "An Examination of Stereotype Threat Effects on Girls' Mathematics Performance." *Developmental Psychology* 49.10 (2013): 1886-1897.
- Geary, David C. "Sexual Selection and Sex Differences in Spatial Cognition." *Learning and Individual Differences* 7.4 (1995): 289-301.
- Gibson, Carolyn E., Joy Losee, and Christine Vitiello. "A Replication Attempt of Stereotype Susceptibility (Shih, Pittinsky, & Ambady, 1999)." *Social Psychology* 45.3 (2014): 194-198.
- Good, Catherine, Joshua Aronson, and Michael Inzlicht. "Improving Adolescents' Standardized Test Performance: An Intervention to Reduce the Effects of Stereotype Threat." *Journal of Applied Developmental Psychology* 24.6 (2003): 645-662.
- Hagger, M. S. et al. "A Multilab Preregistered Replication of The Ego-Depletion Effect." *Perspectives on Psychological Science* 11.4 (2016): 546-573.
- Hamlin, J. Kiley et al. "Not Like Me = Bad: Infants Prefer Those who Harm Dissimilar Others." *Psychological Science* 24.4 (2013): 589-594.
- Hess, T. M. et al. "The Impact of Stereotype Threat on Age Differences in Memory Performance." *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 58.1 (2003): 3-11.
- Hess, Thomas M., Joey T. Hinson, and Elizabeth A. Hodges. "Moderators of and Mechanisms Underlying Stereotype Threat Effects on Older Adults' Memory Performance." *Experimental Aging Research* 35.2 (2009): 153-177.
- Hirt, Edward R., Roberta K. Deppe, and Lesley J. Gordon. "Self-Reported Versus Behavioral Self-Handicapping: Empirical Evidence for a Theoretical Distinction." *Journal of Personality and Social Psychology* 61.6 (1991): 981-991.
- Huber, Vandra L., and Margaret A. Neale. "Effects of Self- and Competitor Goals on Performance in an Interdependent Bargaining Task." *Journal of Applied Psychology* 72.2 (1987): 197-203.
- Johns, Michael, Toni Schmader, and Andy Martens. "Knowing is Half the Battle: Teaching stereotype threat as a means of improving women's math performance." *Psychological Science* 16.3 (2005): 175-179.
- Keller, Johannes. "Blatant Stereotype Threat and Women's Math Performance: Self-Handicapping as a Strategic Means to Cope with Obtrusive Negative Performance Expectations." *Sex Roles* 47.3 (2002): 193-198.

- Keller, Johannes, and Herbert Bless. "When Negative Expectancies Turn Into Negative Performance: The Role of Ease of Retrieval." *Journal of Experimental Social Psychology* 41.5 (2005): 535-541.
- Keller, Johannes, and Dirk Dauenheimer. "Stereotype Threat in the Classroom: Dejection Mediates the Disrupting Threat Effect on Women's Math Performance." *Personality and Social Psychology Bulletin* 29.3 (2003): 371-381.
- Keller, Johannes, and Denise Sekaquaptewa. "Solo Status and Women's Spatial Test Performance: The Role of Individuation Tendencies." *European Journal of Social Psychology* 38.6 (2008): 1044-1053.
- Kelly, David J., et al. "Three-Month-Olds, But not Newborns, Prefer Own-Race Faces." *Developmental Science* 8.6 (2005): 31-37.
- Kiefer, Amy K., and Denise Sekaquaptewa. "Implicit Stereotypes and Women's Math Performance: How Implicit Gender-Math Stereotypes Influence Women's Susceptibility to Stereotype Threat." *Journal of Experimental Social Psychology* 43.5 (2007): 825-832.
- Knowles, Megan L. et al. "Choking under Social Pressure: Social Monitoring among the Lonely." *Personality and Social Psychology Bulletin* 41.6 (2015): 805-821.
- Koenig, Anne M., and Alice H. Eagly. "Stereotype Threat in Men on a Test of Social Sensitivity." *Sex Roles* 52.7-8 (2005): 489-496.
- Kolditz, Thomas A., and Robert M. Arkin. "An Impression Management Interpretation of the Self-Handicapping Strategy." *Journal of Personality and Social Psychology* 43.3 (1982): 492-502.
- Kray, Laura J, Adam D Galinsky, and Leigh Thompson. "Reversing the Gender Gap in Negotiations: An Exploration of Stereotype Regeneration." *Organizational Behavior and Human Decision Processes* 87.2 (2002): 386-410.
- Lamont, Ruth A., Hannah J. Swift, and Dominic Abrams. "A Review and Meta-Analysis of Age-Based Stereotype Threat: Negative Stereotypes, Not Facts, Do the Damage." *Psychology and Aging* 30.1 (2015): 180-193.
- Lesko, Alexandra C., and Jennifer Henderlong Corpus. "Discounting the Difficult: How High Math-Identified Women Respond to Stereotype Threat." *Sex Roles* 54.1-2 (2006): 113-125.
- Levy, Becca. "Improving Memory in Old Age through Implicit Self-Stereotyping." *Journal of Personality and Social Psychology* 71.6 (1996): 1092-1107.

- Lu, Aitao et al. "Anxiety and Mind Wandering as Independent Consequences of Stereotype Threat." *Social Behavior and Personality: An International Journal* 43.4 (2015): 537-558.
- Malcarne, Vanessa L. et al. "The Scale of Ethnic Experience: Development and Psychometric Properties." *Journal of Personality Assessment* 86.2 (2006): 150-161.
- McGlone, Matthew S., and R. Abigail Pfister. "Stereotype Threat and the Evaluative Context of Communication." *Journal of Language and Social Psychology* 34.2 (2014): 111-137.
- McIntyre, Rusty B. et al. "Effects of Role Model Deservingness on Overcoming Performance Deficits Induced by Stereotype Threat." *European Journal of Social Psychology* 41.3 (2010): 301-311.
- Moon, Alice, and Scott S. Roeder. "A Secondary Replication Attempt of Stereotype Susceptibility (Shih, Pittinsky, & Ambady, 1999)." *Social Psychology* 45.3 (2014): 199-201.
- Mrazek, Michael D. et al. "Threatened to Distraction: Mind-Wandering as a Consequence of Stereotype Threat." *Journal of Experimental Social Psychology* 47.6 (2011): 1243-1248.
- Nadler, Joel T., and M. H. Clark. "Stereotype Threat: A Meta-Analysis Comparing African Americans to Hispanic Americans." *Journal of Applied Social Psychology* 41.4 (2011): 872-890.
- Neale, Margaret A., and Max H. Bazerman. "The Effect of Externally Set Goals on Reaching Integrative Agreements in Competitive Markets." *Journal of Organizational Behavior* 6.1 (1985): 19-32.
- Nguyen, Hannah-Hanh D., and Ann Marie Ryan. "Does Stereotype Threat Affect Test Performance of Minorities and Women? A Meta-Analysis of Experimental Evidence." *Journal of Applied Psychology* 93.6 (2008): 1314-1334.
- Osborne, Jason W. "Linking Stereotype Threat and Anxiety." *Educational Psychology* 27.1 (2007): 135-154.
- Quinn, Diane M., and Steven J. Spencer. "The Interference of Stereotype Threat with Women's Generation of Mathematical Problem-Solving Strategies." *Journal of Social Issues* 57.1 (2001): 55-71.
- Régner, Isabelle, et al. "Our Future Scientists: A Review of Stereotype Threat in Girls from Early Elementary School to Middle School." *Revue Internationale de Psychologie Sociale* 27.3 (2014): 13-51.

- Rhodewalt, Frederick. "Conceptions of Ability, Achievement Goals, and Individual Differences in Self-Handicapping Behavior: On the Application of Implicit Theories." *Journal of Personality* 62.1 (1994): 67-85.
- . "Self-Handicappers: Individual Differences in the Preference for Anticipatory, Self-Protective Acts." *Self-Handicapping: The Paradox That Isn't*. Raymond L. Higgins, Charles R. Snyder and Steven Berglas. New York: Plenum Press, 1990. 69-106.
- Rhodewalt, Frederick et al. "Self-Handicapping: The Role of Discounting and Augmentation in the Preservation of Self-Esteem." *Journal of Personality and Social Psychology* 61.1 (1991): 122-131.
- Rhodewalt, Frederick et al. "Self-Handicapping and Interpersonal Trade-Offs: The Effects of Claimed Self-Handicaps on Observers' Performance Evaluations and Feedback." *Personality and Social Psychology Bulletin* 21.10 (1995): 1042-1050.
- Rice, Kenneth G. et al. "Perfectionism Moderates Stereotype Threat Effects on STEM Majors' Academic Performance." *Journal of Counseling Psychology* 60.2 (2013): 287-293.
- Sackett, Paul R., Chaitra M. Hardison, and Michael J. Cullen. "On Interpreting Stereotype Threat as Accounting for African American-White Differences on Cognitive Tests" *American Psychologist* 59.1 (2004): 7-13.
- Schmader, Toni, and Michael Johns. "Converging Evidence That Stereotype Threat Reduces Working Memory Capacity." *Journal of Personality and Social Psychology* 85.3 (2003): 440-452.
- Schmader, Toni, Michael Johns, and Marchelle Barquissau. "The Costs of Accepting Gender Differences: The Role of Stereotype Endorsement in Women's Experience in the Math Domain." *Sex Roles* 50.11/12 (2004): 835-850.
- Seibt, Beate, and Jens Förster. "Stereotype Threat and Performance: How Self-Stereotypes Influence Processing by Inducing Regulatory Foci." *Journal of Personality and Social Psychology* 87.1 (2004): 38-56.
- Sekaquaptewa, Denise, and Mischa Thompson. "Solo Status, Stereotype Threat, and Performance Expectancies: Their Effects on Women's Performance." *Journal of Experimental Social Psychology* 39.1 (2003): 68-74.
- Sekaquaptewa, Denise, Andrew Waldman, and Mischa Thompson. "Solo Status and Self-Construal: Being Distinctive Influences Racial Self-Construal and Performance Apprehension in African American Women." *Cultural Diversity and Ethnic Minority Psychology* 13.4 (2007): 321-327.

- Shih, Margaret, Todd L. Pittinsky, and Nalini Ambady. "Stereotype Susceptibility: Identity Salience And Shifts In Quantitative Performance." *Psychological Science* 10.1 (1999): 80-83.
- Skorich, Daniel P. et al. "Stereotype Threat and Hazard Perception among Provisional License Drivers." *Accident Analysis & Prevention* 54 (2013): 39-45.
- Smith, Jessi L. "The Interplay among Stereotypes, Performance-Avoidance Goals, and Women's Math Performance Expectations." *Sex Roles* 54.3-4 (2006): 287-296.
- Smith, Jessi L., Carol Sansone, and Paul H. White. "The Stereotyped Task Engagement Process: The Role of Interest and Achievement Motivation." *Journal of Educational Psychology* 99.1 (2007): 99-114.
- Smith, Jessi L., and Paul H. White. "An Examination of Implicitly Activated, Explicitly Activated, and Nullified Stereotypes on Mathematical Performance: It's Not Just a Woman's Issue." *Sex Roles* 47.3 (2002): 179-191.
- Smith, Timothy W., C. R. Snyder, and Mitchell M. Handelsman. "On the Self-Serving Function of an Academic Wooden Leg: Test Anxiety as a Self-Handicapping Strategy." *Journal of Personality and Social Psychology* 42.2 (1982): 314-321.
- Spencer, Steven J., Christine Logel, and Paul G. Davies. "Stereotype Threat." *Annual Review of Psychology* 67.1 (2016): 415-437.
- Spencer, Steven J., Claude M. Steele, and Diane M. Quinn. "Stereotype Threat and Women's Math Performance." *Journal of Experimental Social Psychology* 35.1 (1999): 4-28.
- Stangor, Charles, Christine Carr, and Lisa Kiang. "Activating Stereotypes Undermines Task Performance Expectations." *Journal of Personality and Social Psychology* 75.5 (1998): 1191-1197.
- Steele, Claude M. "A Threat in the Air: How Stereotypes Shape Intellectual Identity and Performance." *American Psychologist* 52.6 (1997): 613-629.
- Steele, Claude M., and Joshua Aronson. "Stereotype Threat and the Intellectual Test Performance of African Americans." *Journal of Personality and Social Psychology* 69.5 (1995): 797-811.
- Steele, Claude Mason, Steven J. Spencer, and Joshua Aronson. "Contending With Group Image: The Psychology of Stereotype and Social Identity Threat." *Advances in Experimental Social Psychology, Volume 34*. Ed. Mark P. Zanna. New York: Academic, 2002. 379-440.

- Stoet, Gijsbert, and David C. Geary. "Can Stereotype Threat Explain the Gender Gap in Mathematics Performance and Achievement?." *Review of General Psychology* 16.1 (2012): 93-102.
- Stone, Jeff. "Battling Doubt by Avoiding Practice: The Effects of Stereotype Threat on Self-Handicapping in White Athletes." *Personality and Social Psychology Bulletin* 28.12 (2002): 1667-1678.
- Stone, Jeff, and Chad McWhinnie. "Evidence That Blatant Versus Subtle Stereotype Threat Cues Impact Performance through Dual Processes." *Journal of Experimental Social Psychology* 44.2 (2008): 445-452.
- Swift, H. J., D. Abrams, and S. Marques. "Threat or Boost? Social Comparison Affects Older People's Performance Differently Depending on Task Domain." *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 68.1 (2012): 23-30.
- Tajfel, Henri. "Social Stereotypes and Social Groups." *Intergroup Behavior*. Eds. John C. Turner and Howard Giles. Oxford: Blackwell, 1981. 144-167.
- Tellhed, Una, and Fredrik Björklund. "Stereotype Threat in Salary Negotiations is Mediated by Reservation Salary." *Scandinavian Journal of Psychology* 52.2 (2010): 185-195.
- Tice, Dianne M. "Esteem Protection or Enhancement? Self-Handicapping Motives and Attributions Differ by Trait Self-Esteem." *Journal of Personality and Social Psychology* 60.5 (1991): 711-725.
- Tomasetto, Carlo, Francesca Romana Alparone, and Mara Cadinu. "Girls' Math Performance under Stereotype Threat: The Moderating Role of Mothers' Gender Stereotypes." *Developmental Psychology* 47.4 (2011): 943-949.
- Urda, Tim. "Predictors of Academic Self-Handicapping and Achievement: Examining Achievement Goals, Classroom Goal Structures, and Culture." *Journal of Educational Psychology* 96.2 (2004): 251-264.
- von Hippel, Courtney, Elise K. Kalokerinos, and Julie D. Henry. "Stereotype Threat among Older Employees: Relationship with Job Attitudes and Turnover Intentions." *Psychology and Aging* 28.1 (2013): 17-27.
- von Hippel, Courtney, Denise Sekaquaptewa, and Matthew McFarlane. "Stereotype Threat among Women in Finance." *Psychology of Women Quarterly* 39.3 (2015): 405-414.
- Wheeler, S. Christian, and Richard E. Petty. "The Effects of Stereotype Activation on Behavior: A Review of Possible Mechanisms." *Psychological Bulletin* 127.6 (2001): 797-826.

Wout, Daryl A., Mary C. Murphy, and Sabrica Barnett. "When Having Black Friends Isn't Enough." *Social Psychological and Personality Science* 5.7 (2014): 844-851.

Zuckerman, Miron, and Fen-Fang Tsai. "Costs of Self-Handicapping." *Journal of Personality* 73.2 (2005): 411-442.