

When Does a Role Model Become a Prime?: The Effects of Stimulus Presentation and Identification on Psychophysiological Responses During Competition

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Introduction

Background

•Human beings are greatly influenced by others in their environment

•Two examples of this influence are:

•**Role models** – individuals who are seen as inspiring and self-relevant (Hoyt et al., 2011; Lockwood & Kunda, 1997)

•**Primes** – subtle reminders that automatically and unconsciously impact the activation of certain ideas and concepts (Loersch & Payne, 2011; Steele & Ambady, 2005; Wheeler & DeMarree, 2009; Wheeler et al., 2011)

Role Models and Primes

•Role models and primes *differ* in that role model effects tend to occur after an individual psychologically identifies with the similarities they have with a successful other, whereas priming effects occur without identifying with the individual and regardless of any similarity

•Previous research has not addressed the specifics of when the presentation of a stimulus in the form of a successful other is more or less likely to lead to role model or priming effects

•In other words, it is possible that the same stimulus can act as a prime or a role model under varying conditions (Wheeler & DeMarree, 2009; Wheeler et al., 2011; Steele & Ambady, 2005; Loersch & Payne, 2011).

Purpose

•Examine if women who are presented with the same stimulus as either a role model or a prime exhibit different responses during a competitive task

•To assess responses following role model/prime exposure, we will apply the biopsychosocial model of challenge and threat (Blascovich & Tomaka, 1996) to measure cardiovascular responses

•The model holds that cardiovascular responses reveal psychological evaluations of personal resources versus situational demands

•This is an ideal approach for investigating the effects of role models/primes because a person's evaluation of personal resources during task performance should be affected by exposure to role models and primes, but such influences can occur outside of conscious awareness

Biopsychosocial Model of Challenge and Threat

•Positive motivational states (challenge) and negative motivational states (threat) are determined by the ratio of evaluated resources and demands in motivated performance situations (i.e., a competitive game)

•**Challenge** occurs when personal resources are high and situational demands are low

• Increase in heart rate (HR) from resting baseline - heart beats faster

• Increase in ventricular contractility (VC) - heart beats harder

• Low total peripheral resistance (TPR) - arteries dilate

• High cardiac output (CO) - heart pumps more blood

•**Threat** occurs when situational demands are high and personal resources are low

•Like during challenge: increase in HR and VC

•Unlike during challenge:

•High TPR

•Low CO

Method

Participants

•Participants will be 120 female undergraduates enrolled in introductory psychology courses from the University at Buffalo

Procedure

•Will sit for a 5-minute resting baseline after physiological sensors are attached

•Participants will be given 2 minutes to read an “alumni spotlight” article about a recent college graduate who is described as having competed successfully against men

•Participants are exposed to two manipulations:

•**Stimulus presentation manipulation:**

•**Role-model focus:** participants will be asked to focus on their shared similarities/dissimilarities with the individual depicted in the article

•Role model effects should occur because female participants will be given the opportunity to consciously identify with the individual being presented in the article

•**Prime focus:** participants will be asked to focus on the main points being depicted in the article

•This should lead to priming effects because participants are automatically and unconsciously impacted by the characteristics of the individual depicted in the article

•**Similarity/dissimilarity manipulation:**

•**Similar target:** the individual depicted in the article will be a successful woman who graduated from UB

•**Dissimilar target:** the individual depicted in the article will be a successful man from a different university

•Next, participants will complete a competitive video game

•Participants will hear that the objective of the game is to outscore their opponent “Matthew” by crossing a field of moving obstacles as many times as possible in a 2-minute period

•Physiological reactivity will be measured during the video game in order to assess relative challenge/threat responses

•Lastly, the experimenter will remove the sensors and participants will be thoroughly debriefed

Hypotheses

Role-Model Focus:

•Exhibit **challenge** when exposed to a similar target

•Similar role model will lead to evaluation of high personal resources because the competition-conducive qualities of the role model will be adopted by participants

•Exhibit **threat** when exposed to a dissimilar target

•Dissimilar role model will lead to evaluation of low personal resources because role model qualities will not be adopted

Prime Focus:

•Exhibit **challenge** regardless of similarities or dissimilarities

•Similar/dissimilar other presented as a prime will provide high personal resources because role-model qualities will be adopted by participants

Anticipated Results

Analytical Strategy

•A two-way ANOVA will be conducted using stimulus presentation and similarity/dissimilarity of target as independent variables

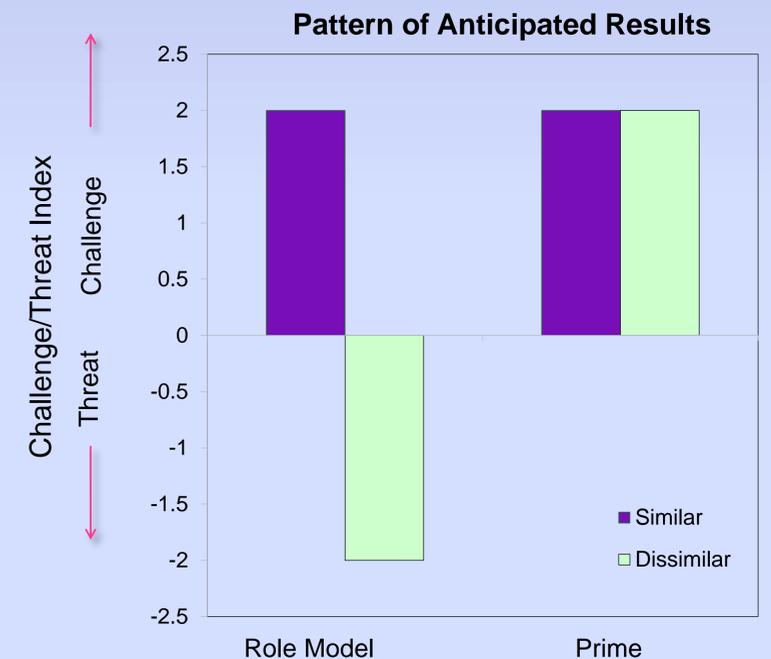
•Index scores combining TPR and CO will be created to produce a standardized index score of challenge/threat (higher values indicate greater challenge)

Challenge/Threat

•A two-way interaction between presentation type and similarity/dissimilarity of the target is expected

•Specifically, women who are asked to focus on similarities/differences (i.e., role model presentation) should exhibit relative **challenge** when the target is similar; however they should exhibit relative **threat** when the target is dissimilar

•On the other hand, females who are asked to focus on the main points in the article (i.e., prime presentation) should exhibit relative **challenge** when the target is similar and when the target is dissimilar



Conclusion

•The current study hopes to extend previous research on both role model and priming effects

•Anticipated results have the potential to contribute to our understanding of the differential impacts that people have on others within their social environment

•Furthermore, findings from this study can help explain why exposure to the same novel other can have different effects for different people across different situations (i.e., when the other person functions as a role model vs. prime)