


Implementation of a “Best Self” Exercise to Decrease Imposter Phenomenon in Residents

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ABSTRACT

Background Imposter phenomenon (IP) is common in medicine. An intervention from the business world, the Reflected Best Self Exercise (RBSE), in which an individual elicits stories of themselves at their best, has not been studied in medical residents.

Objective To determine the feasibility of implementing the RBSE and its potential for reducing IP in residents.

Methods All incoming internal medicine and internal medicine-pediatrics interns in the 2022-2023 academic year at a single institution were invited to complete the RBSE. Participants elicited stories from contacts prior to beginning residency and received their stories during intern orientation in a 1-hour session led by one author with no prior training. Cost and time requirements were assessed. IP was measured via the Clance Impostor Phenomenon Scale (CIPS) at baseline, 1 month, and 6 months following the RBSE. Informal feedback on the RBSE was collected via surveys at 1 month and 6 months.

Results Nineteen of 35 interns (54.3%) completed the RBSE. It cost \$75 per participant, for a total cost of \$1,425. Twenty-eight of 35 (80%) completed the baseline CIPS, with scores similar between participants and nonparticipants (64.9 vs 68.9). CIPS scores were lower in participants at 1 month (57.6 vs 69.6) and 6 months (55.6 vs 64.5) but did not meet statistical significance. Survey feedback from participants suggested the intervention was beneficial.

Conclusions Implementing the RBSE in residents was feasible with reasonable cost and time commitment. It appeared highly acceptable to residents, with some promise of effects on an IP scale.

Introduction

Residency training is associated with high rates of burnout,¹ depression,² and the imposter phenomenon (IP).³⁻⁵ IP was first described by the psychologist Pauline Rose Clance in a group of women who had persistent feelings of self-doubt despite high achievement⁶; she subsequently developed the Clance Impostor Phenomenon Scale (CIPS) to enable further study and quantification of IP.⁷ IP is associated with worse mental health^{8,9} and decreased job satisfaction and commitment.^{10,11} IP is highly prevalent in physicians^{3,5} and is associated with negative effects on confidence and learning.⁴

To our knowledge, there are no interventions with strong evidence to reduce IP.¹² In the business and psychology fields, the Reflected Best Self Exercise (RBSE) has shown promise in improving individual and team performance. The RBSE is a “feedback seeking exercise that helps you identify and understand

your unique strengths and talents,” and involves eliciting personal stories of the participant at their best from family, friends, and colleagues.¹³ The RBSE is described as a personal highlight reel or living eulogy.¹⁴ Business teams participating in similar exercises outperformed standard teams, and an onboarding process in a large technology company focusing on new employees’ “best selves” improved employee retention and customer satisfaction.^{15,16} The impact of the RBSE on IP in residents is unknown.

To determine if implementation of the RBSE would affect IP in residents in the beginning of training, we implemented the RBSE for incoming internal medicine and internal medicine-pediatrics interns, with consideration of feasibility and acceptability.

Methods

All incoming interns from the internal medicine and internal medicine-pediatrics residency programs for the 2022-2023 academic year at a large, suburban, university-based institution were invited to participate in March 2022. All participants received a letter explaining the project to send to contacts when requesting stories for the RBSE (see online supplementary data). Participants created a portal with the

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University of Michigan's Center for Positive Organizations¹³ to request and receive their story collection. Participants were encouraged to reach out to family, friends, colleagues, and mentors requesting stories of themselves at their best; we recommended that participants reach out to 10 or more contacts to receive a higher volume of stories. Residents then reviewed their story collection during a dedicated 1-hour session during intern orientation led by one author (M.G.R.) with no formal training. The cost for RBSE portal creation was \$75 per participant and was covered by the residency program.

All interns were invited to anonymously complete the CIPS, a 20-item Likert scale survey, during intern orientation (prior to receiving their RBSE stories), 1 to 2 months into intern year, and 6 months into intern year. Follow-up surveys (with identities remaining anonymous) at 1 and 6 months were distributed via email by one author (M.G.R.). CIPS scoring ranges from 20 to 100, with higher scores indicating higher levels of IP.⁷ CIPS scores of 40 or lower indicate low IP, 41 to 60 moderate IP, 61 to 80 frequent IP, and over 80 intense IP.⁷ The CIPS has previously been used to assess medical trainees.^{4,9} Permission to use the CIPS was granted by Andra Gailis and Pauline Rose Clance through personal communication.

One open-ended question was asked via electronic survey at 1 and 6 months to determine the personal impact of the RBSE. Ten survey questions from the Cable research group were also asked to gauge various aspects of IP (see online supplementary data).

Differences in CIPS scores between participants and nonparticipants were compared at each timepoint using a 2-sample *t* test with *P* value significance set at $<.05$. Feasibility of this intervention was assessed in the following domains: cost, time required for project leaders, resident participation rate, and time requirement for residents. This project was deemed exempt by the institutional review board of the University of North Carolina at Chapel Hill.

Results

Thirty-five interns were invited to participate (29 categorical internal medicine and 6 internal medicine-pediatrics

interns). Nineteen of 35 (54.3%) participated in the RBSE. Twenty-eight of 35 (80%) completed the baseline survey (16 RBSE participants, 12 nonparticipants); 2 nonparticipants were excluded due to incomplete answers. At the 1-month follow-up, 18 of 35 (51.4%) completed the CIPS; 11 of the 18 (61.1%) participated in the RBSE, while 7 (38.9%) had not. At the 6-month follow-up, 19 of 35 (54.3%) completed the CIPS; 15 of the 19 (78.9%) participated in the RBSE, while 4 (21.1%) had not.

The mean CIPS score at baseline was 66.4 and was similar between participants and nonparticipants (64.9 vs 68.9; $P=.48$; TABLE 1). At 1-month follow-up, the mean CIPS score was lower for RBSE participants compared to nonparticipants but did not meet statistical significance (57.6 vs 69.6; $P=.15$). At 6 months, the mean CIPS score was lower for RBSE participants but also did not meet statistical significance (55.6 vs 64.5; $P=.32$).

The RBSE portal cost \$75 per individual for a total cost of \$1,425. One author (M.G.R.) led portal purchasing and organization; this process took less than 1 hour to complete. Residents created their portal and requested stories from their contacts prior to beginning residency; this process could be completed online in less than 30 minutes. Participants were asked, "Did you find that reading your stories improved your confidence, self-esteem, or self-worth? Feel free to describe how this intervention impacted you." Eleven participants responded; all remarked positively on the project (TABLE 2).

Discussion

The RBSE, in which individuals obtain stories of their best self from family, friends, and others, appeared feasible and acceptable when implemented in incoming internal medicine and medicine-pediatrics residents at one institution. The intervention did not show statistically significant differences in IP as measured by the CIPS at 1-month and 6-month follow-ups.

IP was prevalent in our residents, consistent with prior research in medical students and physicians.^{3-5,17} To our knowledge, no prior studies have examined any interventions to reduce IP.¹² It is possible that the

TABLE 1
Mean CIPS Scores Among RBSE Participants and Nonparticipants at Baseline and at 1-Month and 6-Month Follow-Ups

Time Interval	CIPS Score		P value
	RBSE Participants	Nonparticipants	
Baseline	64.9	68.9	.48
1 Month	57.6	69.6	.15
6 Months	55.6	64.5	.32

Abbreviations: CIPS, Clance Impostor Phenomenon Scale; RBSE, Reflected Best Self Exercise.

TABLE 2

Open-Ended Responses Regarding How the Reflected Best Self Exercise Benefited Project Participants

<i>Did you find that reading your stories improved your confidence, self-esteem, or self-worth? Feel free to describe how this intervention impacted you.</i>
"I definitely believe that reading the stories improved my confidence. I find it much easier to be critical of my shortcomings, and I certainly don't make a habit of dwelling on past success. As such, it was nice to have those closest to me remind me of moments that I've demonstrated the kind of qualities I hope to more consistently embody each day."
"I loved this project! It was the perfect confidence boost prior to starting residency, when I was personally at a very anxious low point. It brought my support network right to my living room, and I was reminded of the journey I took to get here. I felt much more confident and excited about starting residency, and I know these stories are something I will treasure and revisit over the years."
"Definitely, I've kept these stories by my desk since starting residency. On tougher days, I've been able to read back on these words to provide encouragement. The stories gave me an inside look at what mentors and friends believe are my strengths, on the wards I've tried to rely on those to effectively help patients."
"Yes! I think I really enjoyed the stories that spoke about my character. Sometimes I worry if I'm showing up enough for the people that I care about. And it was really nice to read that I am!"

RBSE led to changes in self-efficacy and reduced feelings of IP in participants. It is also possible that some individuals may benefit substantially from the intervention while others do not; the use of anonymous surveys limits our ability to detect individual benefit. It is also possible that only some aspects of IP are impacted by the RBSE.

This study is limited by the small sample size, implementation in 2 closely related specialties, and a single institution in terms of generalizing to other settings and disciplines. The results are likely to have been affected, in unclear ways, by the voluntary nature of participation. Comparing group means may miss individual effects; the highly positive feedback from some participants may suggest the RBSE is more beneficial in select individuals.

Further work may include interviews of nonparticipating residents to determine barriers to participation in the RBSE, as well as measuring IP at the midpoint and end of residency. A larger assessment of the RBSE across multiple specialties to determine the acceptability and impact of the intervention would be helpful. We have continued offering the RBSE to all incoming interns in our program and have found this to be sustainable. Ultimately, a randomized trial of the RBSE in physicians would be feasible to accomplish and provide further evidence for the intervention.

Conclusions

Implementing a best self exercise, the RBSE, during orientation in internal medicine and medicine-pediatrics interns was feasible in terms of cost and time and appeared highly acceptable to those who voluntarily participated. There were no changes in a scale measuring IP at 1 month and 6 months post-intervention.

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Conflict of interest: Daniel M. Cable, PhD, has published a book and has a consulting company using principles of the Reflected Best Self Exercise to improve personal and organizational performance. He did not receive or provide any financial support for this project.

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