

# Supporting Women on the Path to Becoming Firefighters

ideas **42**



Building a more diverse FDNY by combatting the negative effects of stereotypes on performance

**Among aspiring firefighters applying to join the New York City Fire Department (FDNY), women are nearly twice as likely to withdraw their candidacy just prior to the physical exam as their male peers. Women report being primed to think about negative stereotypes about their gender in this physically demanding setting, which may cause self-doubt and poor performance despite being fully qualified for the job. ideas42 collaborated with FDNY's Office for Recruitment and Retention to design an intervention to (1) give candidates a moment to reflect on their personal values and motivations for becoming a firefighter, and (2) guide candidates through a planning exercise that sets clear expectations for how and when to train for the physical aspects of the job.**

## Summary

Since 2016, the New York City Behavioral Design Team (NYC BDT)—ideas42's unit within the Mayor's Office—has partnered with the Fire Department of New York City's (FDNY) Office of Recruitment and Retention (ORR) in support of its goal to increase diversity among its firefighter workforce. In order to be appointed as a firefighter, applicants must complete a complex application process, which includes a written exam; a physical ability test; medical, psychological and background checks; and graduation from the 18-week Fire Academy. The NYC BDT examined the steps applicants go through to identify drop off points and design solutions to support people from underrepresented backgrounds to persist through the application process. For instance, in a previous collaboration, the NYC BDT and FDNY ORR found that waiving the administrative fee (\$30) for signing up for the written exam increased exam filing rates by 84% among Black candidates and by 82% among women candidates.<sup>1</sup> We also introduced behaviorally informed reminders that helped candidates make a plan to appear for their exam, significantly increasing attendance.<sup>2</sup>

### Highlights

- ▶ Women applicants to FDNY are disproportionately likely to withdraw before the physical exam.
- ▶ The BDT designed a reflection activity and planning prompt to help combat stereotype threat and other psychological barriers that keep women from advancing in the recruitment process.

For the next step in this work to increase diversity among the firefighter workforce, we tackled another crucial phase in the application process. After receiving a high score on the written exam, candidates are called to prepare for and take the Candidate Physical Ability Test (CPAT). Historical data on the CPAT show that underrepresented groups withdraw their firefighter candidacy at higher rates at this step in the recruiting process. In particular, 63% of women eligible to take the test do not appear for their scheduled CPAT, compared with 32% of men. Yet women who take the exam pass at equal rates to men, underscoring

<sup>1</sup> This result is statistically significant at the 1% level ( $p < 0.01$ ).

<sup>2</sup> This result is statistically significant at the 1% level ( $p < 0.01$ ).

that ability is not the barrier to success. Identifying barriers women face to completing their CPAT could help more of them obtain the jobs they seek and increase the diversity of the firefighter workforce.

In 2018, the NYC BDT partnered with FDNY to conduct in-depth qualitative and quantitative research to better understand attrition at the CPAT stage of the recruiting process. We focused on understanding women's experiences due to the high drop-off rates at this stage. This research produced a two-part intervention to combat stereotype threat and other psychological barriers that prevent women from persisting through this stage of firefighter recruitment. Together, these interventions prompt candidates to reflect on their motivations for becoming a firefighter and plan their training steps for the CPAT exam. The exercises we created are now administered as part of the training curriculum for all candidates who attend an information session prior to the start of the CPAT Training Program.

## Uncovering psychological barriers to persistence .....

The first phase of our research was the design and implementation of a survey. The NYC BDT reviewed the literature on efforts to increase diversity through recruitment and analyzed available quantitative and qualitative data on past firefighter candidates, which guided our behavioral mapping process and the development of the survey instrument. We developed a set of survey questions,<sup>3</sup> which were sent to all candidates who received sufficiently high scores on exams administered in 2017, were called forward to the CPAT phase, and either voluntarily withdrew or accepted appointment. These survey questions aimed to better understand key differences in the experiences of candidates who were appointed and those who dropped out of the process, and the psychological barriers they faced.

Based on our findings from these activities, we focused our next effort on two primary psychological barriers that candidates may face during firefighter recruitment: **stereotype threat** and **belonging uncertainty**.

### Understanding stereotype threat and belonging uncertainty

Stereotype threat is a situational phenomenon that arises when people believe they face the prospect of being viewed or evaluated in light of a negative stereotype about a group to which they belong.

A significant body of social psychology research demonstrates that under certain conditions—especially when the person believes that their ability is being evaluated and when they care about the field of work in which they are being evaluated—stereotype threat can cause people not to perform as well as they are actually capable. The stereotype does not even need to be accepted by the person in question in order to result in underperformance—awareness that other people may believe it is sufficient.<sup>4</sup>

In addition to causing underperformance relative to ability, stereotype threat has been shown to decrease engagement and sense of belonging.<sup>5</sup> **Social belonging**—a sense of having positive relationships with

<sup>3</sup> These survey questions were psychometrically validated.

<sup>4</sup> Casad, B. J., & Bryant, W. J. (2016). Addressing stereotype threat is critical to diversity and inclusion in organizational psychology. *Frontiers in Psychology*, 7, 8. Kray, L., & Shirako, A. (2011). Stereotype Threat in Organizations. *Stereotype Threat: Theory, Process, and Application*, 173.

<sup>5</sup> Walton, G. M., Murphy, M. C., & Ryan, A. M. (2015). Stereotype threat in organizations: implications for equity and performance. *Annu. Rev. Organ. Psychol. Organ. Behav.*, 2(1), 523–550.

others—is a fundamental human need.<sup>6</sup> Members of socially stigmatized groups may be more uncertain than others about their social belonging in mainstream institutions, like work or school. Because their group is often negatively stereotyped and marginalized, they may be unsure of whether they will be fully included in positive social relationships in these settings.<sup>7</sup>

Research has shown that belonging uncertainty undermines motivation and achievement among individuals whose group is negatively stereotyped.<sup>8</sup> Even a single incidence that prompts belonging uncertainty can undermine well-being, IQ test performance, and self-control. Further, research shows that instilling a theory that struggles are common and surmountable during moments of transition can reduce negative effects of belonging uncertainty. Simply reassuring members of stereotyped groups that their early struggles do not necessarily mean they don't belong can significantly improve social and persistence outcomes.<sup>9</sup>

Both stereotype threat and belonging uncertainty could lead to attrition in the firefighter recruitment processes. Through the survey, we learned that women candidates and Black candidates express experiencing significantly higher levels of stereotype threat related to their race and gender throughout the firefighter recruitment process. More specifically, women candidates who dropped out of the process describe experiences that involve significantly more threat and **self-doubt**. Further, they are more likely to express experiencing threat at the CPAT stage of the process. In the survey, Black candidates also expressed significantly more belonging uncertainty about whether they would fit in at a firehouse than other candidates.

### Other behavioral barriers from the survey

We also learned about some additional barriers. Women who withdrew after being called to take the CPAT were more likely to experience **negative self-talk**—discouraging or critical internal dialogue. And, all candidates experience **scarcity** due to work- or family-related obligations when going through the recruiting process. Women who withdrew were more likely to have been attending school and/or working part-time or serving in the military.

### Interviews with firefighters and trainers

In addition to running a survey, we conducted in-depth interviews with 15 active-duty firefighters and eight active-duty firefighter trainers about their experiences in the recruiting process. Over half of the firefighters interviewed were women and over half of all interviewees represented diverse backgrounds. In addition to developing questions to test these primary and secondary hypotheses, FDNY Recruitment, the NYC Department of Justice (DOJ), and the federally appointed Court Monitor (CM) requested additional questions to measure the experiences of firefighter candidates throughout the hiring process that we incorporated.

<sup>6</sup> J. T. Cacioppo, B. Patrick, *Loneliness: Human Nature and the Need for Social Connection* (Norton, New York, 2008).

<sup>7</sup> Walton, G. M., and G. L. Cohen. "A Brief Social-Belonging Intervention Improves Academic and Health Outcomes of Minority Students." *Science*, vol. 331, no. 6023, Mar. 2011, pp. 1447–51. *CrossRef*, doi:[10.1126/science.1198364](https://doi.org/10.1126/science.1198364).

<sup>8</sup> Walton, G. M. & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, 92, 82, 96.

<sup>9</sup> Yeager, D. S., Walton, G. M., Brady, S. T., Akcinar, E. N., Paunesku, D., Keane, L., ... & Gomez, E. M. (2016). Teaching a lay theory before college narrows achievement gaps at scale. *Proceedings of the National Academy of Sciences*, 201524360.

We also attended optional training sessions offered by the United Women Firefighters (UWF) to better understand the physical training and on-the-job experience and went to the FDNY Probationary Firefighter Academy at Randall's Island to observe practice tests and information sessions organized by FDNY.

From interviews, we learned about additional barriers that candidates face when going through the recruiting process, which are related to experiencing stereotype threat early in the process. We learned:

- ▶ Candidates don't consider training early enough or don't train properly for the physical exam.
- ▶ Candidates decide not to attend training because they are unclear about what the training entails.
- ▶ Candidates delay taking CPAT training because they don't feel prepared yet.
- ▶ Women candidates miss training because something comes up that prevents them from attending (work conflicts, lateness, cancelled babysitter, etc.).
- ▶ Candidates change their mind and stop going to training because they have a negative or harsh experience during training.
- ▶ Candidates defer the decision to take the exam because they don't feel ready yet.
- ▶ Candidates decide not to take the exam because they don't think they belong or identify with being a firefighter after their experiences in the earlier stages of the application process.

## Designing for women firefighter candidate resilience and preparedness .....

To address these barriers, the NYC BDT, in collaboration with the FDNY ORR, developed a two-part intervention to combat stereotype threat and barriers that prevent women candidates from persisting at the CPAT stage of firefighter recruitment. Together, these interventions aim to support women candidates to reflect on their motivations for becoming a firefighter and adequately plan their training steps for the CPAT exam.

In an effort to familiarize candidates with the physical requirements of the CPAT and the job, FDNY holds information sessions and practice exams (termed "CPAT training") at FDNY's training facility on Randall's Island. Our interventions were delivered in-person during an information session by Lieutenant Brown, who works in a firehouse in Brooklyn. Lieutenant Brown was very visible during the 2016-2017 Firefighter recruitment campaign and therefore a credible messenger among aspiring firefighters who had taken the 2017 exam. Trust and credibility are key to the success of behavioral interventions.

The NYC BDT conducted focus groups with candidates and trainers to vet potential activities. The following activities were co-designed with active-duty firefighters and their physical fitness trainers. We held three focus groups where firefighters and trainers both went through these activities and provided recommendations for how to revise them to better meet the needs of candidates.

### **(1) Reflection Activity: Think about “why I am here”**

The *Think about “why I am here”* activity is a values affirmation or “ranking” exercise designed for candidates who have just been invited to take the CPAT. Reflecting on personal values and motivations has been shown to strengthen individuals’ sense of integrity and improve performance.<sup>10</sup>

The activity includes a video featuring current firefighters sharing the struggles they faced when becoming a firefighter, and second, an exercise that creates a moment for candidates to reflect on their motivations for becoming a firefighter. The intervention provides candidates with ways to cope with potential identity threat—affirming their values and motivations as tools for facing challenges. It also changes interpretation of threat—reframing identity as a group of “like-minded individuals” and reattributing hardship to a universal experience among candidates. By hearing from current firefighters about how they struggled and held onto their own motivations, regardless of identity group, candidates are better prepared to avoid triggers and cope with threat when they encounter them. Candidates are also asked to reflect on and rank their top “reasons for becoming a firefighter,” and then write about one reason they chose and share their reasons with a peer. A Lieutenant Officer administers the exercise at CPAT information sessions and, afterward, asks candidates to shake hands and applaud their progress so far, further boosting their sense of their ability and accomplishments. [See Figure A.](#)

### **(2) Planning Prompt: Commit to your #FDNYFit Plan**

*Commit to your #FDNYFit Plan* is an exercise intended for candidates who have been most recently invited to take the CPAT. The exercise asks candidates to fill out a planning card that they keep with them as a daily reminder while they are preparing for the CPAT. Research in the fields of psychology and behavioral science has shown that prompting individuals to form plans about when they will complete an intended behavior increases their follow through.<sup>11</sup> In addition, research demonstrates that writing out clear and achievable goals may significantly improve performance.<sup>12</sup>

In this planning activity, candidates are prompted to use their personal dry-erase planning card to make a training plan, with clear guidelines provided by the facilitator. In addition, candidates learn simple heuristics for training expectations that they can customize based on their ability. Candidates have a place to clearly track their daily progress, and they are encouraged to keep the dry-erase boards somewhere they can revisit them daily, such as a mirror or their fridge. [See Figure B.](#)

<sup>10</sup> Sherman, David K., et al. (2013) “Deflecting the Trajectory and Changing the Narrative: How Self-Affirmation Affects Academic Performance and Motivation under Identity Threat.” *Journal of Personality and Social Psychology*, vol. 104, no. 4, 591–618.

<sup>11</sup> Gollwitzer and Sheeran (2006); Milkman et al. (2011); Nickerson and Rogers (2010).

<sup>12</sup> Marisano et al. (2010), “Setting, Elaborating, and Reflecting on Personal Goals Improves Academic Performance.”

**Figure A:** Reflection Activity: Think about “Why I am Here”

## Reflection Activity: Think about “Why I am Here”



### Background

Like many of the firefighters in the videos you just watched, you may worry about the physical challenges of training, feel unsure about whether you will fit in, and balance training with other responsibilities.

**These firefighters learned that everyone goes through these challenges**, and as they practiced, they became prepared for the job, felt more confident, and adjusted to a new way of life.

**Successful firefighters often talk about how they hold onto their reasons for being a firefighter as a source of strength and motivation.** Doing a short exercise to remember what's important to you can improve your strength and performance.

### Instructions

**Please answer the questions below. (Many candidates take 10-15 minutes on these questions.)**

Take your time. Try to get your ideas across, and don't worry about spelling or grammar. Just focus on expressing your thoughts. Your responses will not be collected.

**1. First, remember why you are here. Rank your top five reasons for being here from the list below (1 = most important, 5 = least important).**

- |  |   |
|--|---|
| <input type="checkbox"/> Opportunity to help people in the community | <input type="checkbox"/> Benefits               |
| <input type="checkbox"/> Excitement about the work                   | <input type="checkbox"/> Career advancement     |
| <input type="checkbox"/> Flexible work schedule                      | <input type="checkbox"/> Building relationships |
| <input type="checkbox"/> Teamwork                                    | <input type="checkbox"/> Salary                 |
| <input type="checkbox"/> Opportunity to be a role model              | <input type="checkbox"/> Other _____            |
| <input type="checkbox"/> Physical challenge                          |   |

**2. Next, choose your first or second choice and describe why this value or reason for becoming a firefighter is important to you.**

Which value did you choose as the most important from the list above or from your own list?

Why is it important to you? Write in the space provided. You can also use the back of this page.

**Figure B:** Commit to your #FDNYFit Plan

## Commit to your #FDNYFit Plan

I, \_\_\_\_\_, commit to prepare myself to be a firefighter by completing these steps.

<b>Your plan</b>	<b>Stay on track</b>																														
<input type="checkbox"/> Attend _____ CPAT training sessions at the Rock	We recommend 7 or more. Check off as you go. <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid red; padding: 2px 10px;">1</div> <div style="border: 1px solid red; padding: 2px 10px;">2</div> <div style="border: 1px solid red; padding: 2px 10px;">3</div> <div style="border: 1px solid red; padding: 2px 10px;">4</div> <div style="border: 1px solid red; padding: 2px 10px;">5</div> <div style="border: 1px solid red; padding: 2px 10px;">6</div> <div style="border: 1px solid red; padding: 2px 10px;">7</div> </div>																														
<input type="checkbox"/> Create my training plan:	We recommend 3-5 times per week for each.																														
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<ul style="list-style-type: none"> <li>▪ Resistance train _____ times per week (pushups, pullups, sit-ups, weights)</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid red; padding: 2px 10px;">1</div> <div style="border: 1px solid red; padding: 2px 10px;">2</div> <div style="border: 1px solid red; padding: 2px 10px;">3</div> <div style="border: 1px solid red; padding: 2px 10px;">4</div> <div style="border: 1px solid red; padding: 2px 10px;">5</div> </div>																														
<ul style="list-style-type: none"> <li>▪ Practice stairs _____ times per week (Stairmaster at 60 steps per minute pace)</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid red; padding: 2px 10px;">1</div> <div style="border: 1px solid red; padding: 2px 10px;">2</div> <div style="border: 1px solid red; padding: 2px 10px;">3</div> <div style="border: 1px solid red; padding: 2px 10px;">4</div> <div style="border: 1px solid red; padding: 2px 10px;">5</div> </div>																														
<input type="checkbox"/> Attend the CPAT Orientation at DCAS on ____ / ____	<b>Best CPAT training times:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center; font-weight: normal;">Minutes</th> <th style="text-align: center; font-weight: normal;">Seconds</th> </tr> </thead> <tbody> <tr><td>Stairs</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Hose drag</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Equipment carry</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Ladder raise</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Forcible entry</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Search</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Rescue</td><td style="text-align: center;">:</td><td></td></tr> <tr><td>Ceiling breach</td><td style="text-align: center;">:</td><td></td></tr> <tr><td><b>Total time</b></td><td style="text-align: center;">:</td><td></td></tr> </tbody> </table>		Minutes	Seconds	Stairs	:		Hose drag	:		Equipment carry	:		Ladder raise	:		Forcible entry	:		Search	:		Rescue	:		Ceiling breach	:		<b>Total time</b>	:	
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<input type="checkbox"/> Pass the CPAT Exam at DCAS on ____ / ____																															
<input type="checkbox"/> Sign up for mentorship and contact my mentor once per week																															
<input type="checkbox"/> Sign into the Candidate Portal to track my progress																															
Portal Username: _____																															
Portal Password: _____																															

**Your signature:** \_\_\_\_\_ Today's date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*#FDNYFit: "Quality is not an act, it is a habit." – Aristotle*



## Takeaways

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As a result of these exercises, thousands of firefighter candidates every recruiting year will more effectively prepare for the physical requirements of becoming a firefighter. These evidence-based tools can help women candidates build their resilience to stereotype threat and develop a sense of belonging among their peers, supporting their journey to becoming a firefighter and reducing drop-out.

Learnings from the qualitative research with firefighters and the survey of firefighters and candidates who withdrew have paved the way for reform within the process for recruitment and retention of all candidates. The Office of Recruitment and Retention continues to find ways to make the hiring process more straightforward and transparent, reduce the potential experience of stereotype threat throughout the process, assure candidates that they will belong at their firehouse, and use a diverse set of trusted messengers to communicate these key messages. Bringing a behavioral lens to this work bolsters efforts to build a more diverse firefighter workforce and reduce barriers for women and people of color.