

Fire Research Report

Validation of the Firefighter Recruitment and Selection Programme

Centre for Organisational
Research

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In 2003 the New Zealand Fire Service (NZFS) adopted a competency-based recruitment programme to select trainee firefighters. The current study measured the effectiveness of the selection tests against new recruits' performance on the job. This report presents the results of the study and discusses potential improvements in the way firefighter applicants are assessed during the recruitment and selection process.

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Validation of the Firefighter Recruitment and Selection Programme

Final Report 2009

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Research Summary

In 2003 the New Zealand Fire Service (NZFS) adopted a competency-based recruitment programme to select trainee firefighters (New Zealand Fire Service Commission, 2003a). The current study measured the effectiveness of the selection tests against new recruits' performance on the job. This report presents the results of the study and discusses potential improvements in the way firefighter applicants are assessed during the recruitment and selection process.

Several methods of data collection were used to conduct this study:

1. Literature review on firefighter performance criteria
2. Interviews with NZFS subject matter experts
3. Observation studies to ascertain performance criteria
4. Performance ratings collected from NZFS recruit supervisors

Job performance data were collected from four cohorts of new recruits and over three time periods (immediately after recruit training, and 6 and 12 months post deployment). The data collected during the recruitment and selection process were compared to the performance data to determine which selection methods were the best predictors of future job performance.

The results of the study suggest that the information collected in the application form, the Standard Progressive Matrices cognitive test score, and the interview scores are the best predictors of overall firefighter performance. The information collected from the self-assessment, the ACER cognitive tests, the physical pre-entry test scores, and the scores from the practical assessment course did not predict overall firefighter performance.

We recommend continuing the use of the structured application form, administering the Standard Progressive Matrices cognitive test, and maintaining the standardised training given to those conducting recruit interviews to ensure reliability and consistency. We recommend removing the existing self-assessment questions from the selection process, and assessing written communication skills more specifically given that is the criterion of interest in the self-assessment questions.

Although not predictive of job performance in this particular study, we recommend continuing to run the physical pre-entry test and the practical assessment course to ensure completeness of selection testing. These tests will also provide the candidates with a realistic preview of the physical and applied skills required for the role of firefighter.



Background

Review Rationale

In 2003 the New Zealand Fire Service (NZFS) engaged the services of Cerno Ltd to review the competencies and selection tests used to assess Firefighter applicants (New Zealand Fire Service Commission, 2003a). The report detailed several recommendations to improve the recruitment and selection process used within the Fire Service, including the identification of a revised competency framework. The revised competencies are:

- Drive, Energy, and Achievement Focus
- People and Team Work Skills
- Applied Problem Solving Skills
- Communication Skills
- Physical Fitness

Following the Cerno report the NZFS modified the recruitment and selection process to specifically measure these core competencies. This included changes to the application pack, psychological testing, practical assessment course, interviews, and reference checks. Consequently, there is a good alliance between the core competencies and the recruitment and selection process. To assess how well the revised recruitment and selection scores are predicting good performance, the selection process required validating.

Validation entails measuring the relationship between candidate assessment during recruitment and subsequent performance in training and deployment. The validation process seeks to assess the appropriateness, meaningfulness, and usefulness of the inferences made about applicants during the selection process. The present report examines whether fire fighter applicants will actually perform the job as well as expected based on the inferences made during the selection process. The closer the applicants' actual job performance matches their expected performance, the greater the validity of the inferences made during the selection process.

Prior to this report little was known about the alignment between the NZFS selection process and subsequent firefighter performance. This validation study was therefore designed to inform the NZFS on how effective the selection process is at selecting good recruits. Quality selection of firefighters is important because of the critical nature of the duties firefighters perform during fire, hazardous, and other life-threatening events.



Aims and Objectives

The aim of this study was to evaluate the validity of the NZFS recruitment and selection tests. This is to ensure that the competency model currently used by the NZFS is able to predict successful firefighter performance in the future.

The objective of the study was to validate the recruitment and selection process by analysing the relationship between the selection tests on which the firefighter applicants are assessed and performance ratings of new recruits in their initial training and after deployment. This involved designing and developing specific training and performance measures to assess the competencies currently aligned with the Fire Service's mission.

The Research Project Steering Committee

A steering committee was formed to guide and oversee the study. The steering committee comprised six NZFS staff from various areas within the organisation (human resources, training, recruitment, and operational), and a New Zealand Paid Firefighters' Union staff member. The role of the steering committee was to provide relevant organisational information to aid the study, provide feedback on project ideas and progress, act as subject matter experts in the design of the performance measures, and provide advice on technical issues throughout the study. The steering committee initially convened via teleconference, and then corresponded via email until the completion of the study.

Ethical Approval

Ethical approval was received from the Department of Psychology Research and Ethics Committee at the University of Waikato. All data collected was treated in the strictest confidence in accordance with the Privacy Act.

An information sheet was given to all those participating in the study. Consent forms were collected from the new recruits and their recruit trainers and station officers requested to participate in the study (see appendix 1).

Literature Review

Although the competencies assessed by the New Zealand Fire Service are unique, research in other countries helped inform us of best practice in validation strategies in fire service settings. Validation studies using fire service personnel have been carried out for physical ability tests (e.g. Arvey, Nutting & Landon,



1992, Muegge, et al, 2002), assessment centres and behavioural observation (Lowry, 1994), cognitive and mechanical tests (Barrett, Polomsky & McDaniel, 1999), and various psychological tests including personality inventories (Johnson, 1983; Meronek & Tan, 2004).

A review conducted by Barrett, Polomsky and McDaniel (1999) examined the validity of tests for firefighters. From a sample of 101 studies (13,418 firefighters), the researchers found that mechanical tests are more predictive of on-the-job performance than cognitive test predictors. In job situations requiring complex cognitive tasks, general intelligence predictors have greater validity than any other predictor (e.g. Schmidt & Hunter, 1998). However, for firefighters a substantial component of the job relates to mechanical duties and demands and it is this more applied competency that is considered necessary for successful performance of firefighter duties.

There are few specific studies which measure firefighter performance and training criteria. The available research suggests that performance is typically assessed by supervisor ratings in areas such as oral/written expression, dependability, skill with firefighter tools, and safety skills (Meronek & Tan, 2004).



Method

The study was conducted in several stages, as outlined in the following table.

Stage	Procedure
1	<p>Review of Existing Documentation/ NZFS Processes and Literature Review</p> <p>The researchers reviewed current processes for assessing applicants during the selection process as well as available information on training and on-the-job performance criteria. Information for the review included organisation information & structures, current recruitment and assessment procedures, selection tests and example data, training course content and structure, training grading criteria, performance management system/criteria.</p> <p>Validation studies on firefighters (and similar occupations) were reviewed to identify performance criteria. This included seeking information from Fire Services internationally on firefighter performance criteria/ratings.</p>
2	<p>Structured Interviews and On-Site Observations</p> <p>The researchers interviewed several subject matter experts (SMEs) to identify the level of performance expected for firefighters. SMEs were asked to provide examples of specific behaviours that differentiated excellent performing firefighters from poor performing firefighters for each of the competencies.</p> <p>Observation studies were conducted on-site at two fire stations in Christchurch and one in Wellington, in which members of the research team observed the various jobs being performed. Observations also took place during the recruitment and selection process (Practical Assessment Course and interview) and at the national training centre in Rotorua.</p> <p>Throughout the study, teleconferences with the steering committee were also conducted to gain information about performance expectations. This helped identify and select behaviours related to good vs. poor on-the-job performance (see stage 3). Email correspondence also provided relevant feedback.</p>



Stage	Procedure
<p>3</p>	<p>Criterion Development: Designing Questionnaires for Assessing Firefighter Training and Performance</p> <p>This stage involved using the material sought in stage one and two to develop new measures of firefighter performance that could be used as criteria against which to validate the selection assessments. This involved developing measures for training performance and on-the-job performance, against the five core competencies.</p> <p>A recommendation was made to the steering committee that performance measures/scales were limited to judgements concerning observable employee behaviours, not on firefighter results or personality traits. This was based on the principle that performance is synonymous with behaviour rather than results; that is, behaviour is something that people actually do and can be observed, rather than inferred from someone's perceived character. This approach was to minimise potential rater bias and improve accuracy of ratings.</p> <p>Behaviour observation rating scales were drafted for each competency dimension. Rating scales represent the single most common measure of job performance and require the supervisor to evaluate each firefighter with regard to a particular behavioural standard.</p> <p>The behaviour scales contained a number of specific effective and ineffective behaviours on which each firefighter could be evaluated. The goal was to design and develop a measure of job performance with high fidelity to the tasks performed on the job for a sample of trained firefighters. The items pin-pointed specific and observable behaviours relating to organisational goals and performance expectations.</p> <p>The researchers and steering committee met via teleconference to discuss the items. Several changes were made to ensure the items were relevant to the job. After consultation and feedback, a consensus was reached on 34 items developed to measure firefighter performance. The items were written so they were easy to understand and unambiguous. The rating scales were modified for assessing the candidates after their training, and once deployed (see Appendix 2 and 3).</p> <p>Each item was rated on a five-point rating scale ranging from 'Poor' to 'Exceptional'. The score reflected the supervisor's judgement of how much of the performance dimension the new recruit possessed in doing their job. Raters were told to compare the new recruit against the performance standard within the questionnaire and not against other firefighters.</p>



Stage	Procedure
	<p>The possibility of rating bias was recognised prior to the study commencing. This issues was addressed by collecting ratings on well-defined competency dimensions, collecting behavioural-based ratings rather than personality/'character' ratings, providing rater training, and informing raters that the ratings were for research rather than administrative/promotion purposes.</p> <p>Research and best practice suggest that several factors can lead to more accurate ratings of job performance. This includes ensuring that the rater has an adequate opportunity to observe the firefighter's behaviour (i.e. the more information a rater has about an employee the more accurate the rater's evaluation will be) and rater training to minimise bias. Because it was likely that different raters would have different ideas regarding the aspects of firefighter performance, the standards of performance were detailed in a 'Rater's Guide' which was written specifically for the study by the researchers (see appendix 4). This was provided to each rater (Recruit Trainers and Station Officers).</p>
4	<p>Data Collection</p> <p>The issue of whether job performance is stable across time is important (Schmidt, Ones & Hunter, 1992). The value of different selection tests depends on their ability to predict job performance at all points in time, and in particular in the long term. Therefore performance data were collected on four cohorts of recruits (N = 75) at three time intervals (immediately following training, 6 months after deployment, and 12 months after deployment).</p> <p>GROUP A: October 2006/April 2007/October 2007</p> <p>GROUP B: December 2006/June 2007/December 2007</p> <p>GROUP C: April 2007/October 2007/April 2008</p> <p>GROUP D: May 2008/November 2008/May 2009</p> <p>Recruit Trainers were asked to rate the performance of the firefighters immediately following the new recruits' training course. Station Officers/Senior Station Officers were asked to rate the performance of the new recruits six and 12 months after they were deployed and were sent performance questionnaires via post. Supervisors are in the best position to rate performance due to the substantial opportunity they have to</p>



Stage	Procedure
	<p>observe the performance of their subordinates. Ratings by supervisors are the most widely used criterion in industrial personnel research.</p> <p>Performance questionnaires, along with the signed consent forms, were returned directly and confidentially to Dr Sarah Wright.</p> <p>Selection test scores were provided by NZFS for the 75 new recruits participating in the study.</p>



Data Analysis

Preparing the data

As is always the case with applied research, we did not receive data for all 75 participants for all three time periods. We received ratings for all the recruits following the completion of their training course, due largely to the fact that data were collected onsite from the recruit trainers immediately after the course. Response rates from Station Officers for the 6 and 12 month post-deployment ratings ranged from 57% to 92%, which overall we were pleased with. However, not receiving all the performance information from Station Officers created missing data in our dataset. If the missing data was 'random' (i.e. one or two ratings missed from the 34-item rating sheet for an individual recruit) then the missing items were substituted by the mean of the other items for which we had information. In a few instances no post-deployment performance ratings were provided by Station Officers for the new recruit under their supervision.

Over the course of the study, performance ratings were collected at least once for all of the 75 recruits participating in the study. This, coupled with the high correlations between performance ratings at the three time periods (over $r = .7$)¹, meant that we were able to sum the performance data available to provide one score reflecting 'total' performance. This 'total performance score' was used for the validation analysis.

Data analysis background

The relationship between a selection test (predictor) and a performance measure (criterion) can be evaluated in a variety of ways. In this report we have used regression equations to determine the relationship between the selection test score and the criterion score in terms of a predicted level of criterion score for each value of the test score (that is, to determine the average 'strength' of each of the selection test scores in predicting job performance).

Before interpreting the results of this study, it is important to note that it is not the selection test that is validated, but rather the *interpretation* of scores obtained from the test. Selection decisions are made on the basis of interpretations of scores on a particular test, which is always less than perfectly reliable, but the intent is to predict performance in general.

¹ This is known as inter-rater agreement. As a rule of thumb, correlations over .7 are used as the cut-off point denoting high levels of agreement between raters. In the current study, there is a very high degree of consensus between the raters' performance scores over the three time periods. In other words, the raters consistently agreed about which performance is 'good' and which is 'poor'.



Results

Selection test scores for each recruit were gathered from NZFS. This included:

- application form score
- self-assessment score
- Cognitive test scores
 - ACER-PQ (numerical); quantitative, arithmetic reasoning
 - ACER-PL (verbal); linguistic, vocabulary, verbal reasoning
 - Standard Progressive Matrices test; ability to reason symbolically, think abstractly and the capacity to solve novel or non-routine problems
- Pre-entry physical score
- Practical assessment course (PAC) score
- Interview total score

Job Performance Predictors

The selection data for each recruit were matched to their corresponding total performance score. Multiple regression analysis was used to determine how important each of the selection test scores is when predicting future firefighter performance, when all of the other selection test scores are held constant. The results are as follows:

Selection Test	Standardised beta coefficients
Application form	.32*
Self assessment	.10
Cognitive test – ACER-PQ	.06
Cognitive test – ACER-PL	.01
Cognitive test – Standard Progressive Matrices	.28*
Physical pre-entry test	.10
Practical assessment course	.03
Interview	.27*

* denotes statistical significance at $p < .05$



The higher the 'standardised beta coefficient' the greater the strength of the relationship between the selection score and overall job performance. The beta coefficient is statistically significant if the p value is less than .05. The statistical significance of the relationship between the selection score and overall job performance tells us something about the degree to which the result is "true", and in that sense, being representative of the population and not found due to chance.

The results suggest that the information from the standardised application form, the Standard Progressive Matrices cognitive test, and the scores from the interview questions all serve to predict future firefighter job performance. This means that, in general, candidates who score well on the application form, the Standard Progressive Matrices cognitive test, and the interview turn out to be good performers once on the job.

It is important to remember that it is the scores given to the candidates that are interpreted, not the selection tests. Therefore, the scores from the application form, the Standard Progressive Matrices cognitive test scores, and the interview questions are all serving as accurate predictors of future firefighter performance.

Interpretation of Results

Cognitive Ability Tests

In interpreting these results further, we would expect the Standard Progressive Matrices (SPM) test to have a stronger relationship with firefighter performance than a general intelligence test such as the ACER-PQ/PL. This is due to the SPM test specifically measuring problem solving in non-routine or novel situations. Given that the role of the firefighter often requires performance in novel situations it would be expected that this test would be a good predictor of job performance in this occupational context. As previous research has suggested (Barrett, Polomsky and McDaniel (1999), general intelligence/cognitive-based tests are less predictive of firefighter performance than are more job-specific tests. In the case of the newly recruited firefighter, the current research suggests it is better to test for applied problem solving skills and the candidate's ability to deal with non-routine decision making in novel situations than it is to measure general intelligence.

Application Form and Interview

We believe that the structure of the application form and the interview questions, which relate closely to the five competencies required on the job, explain why these were significant predictors of firefighter performance. Our observation of



this process is that the interviewers are well trained in interviewing skills, closely follow the prescribed interview format, and are consistent when applying scores between candidates. The application form questions are similarly well structured, are job relevant, and are scored consistently by NZFS staff who are trained to assess the candidates. Given the job-relevant nature of these selection procedures and the consistent and structured method in which they are administered, they are good predictors of how well the candidate is likely to perform on the job.

Self-Assessment

The self-assessment questions used in the initial stages of the selection process are primarily designed to measure writing aptitude and skill. The results from this study suggest that the scores given on the self-assessment are not predictive of future firefighter performance. This could be due to a mismatch in the criteria sought from the assessment (writing skills) and the type of selection instrument used (reflective self-assessment seeking to measure 'character' and motivation). We recommend removing the self-assessment questions from the selection process and instead using the report-writing assessment in the practical assessment course to more specifically assess writing skills.

Physical Pre-entry Test and Practical Assessment Course

On initial inspection, it seemed surprising that the physical pre-entry test was not predictive of future firefighter performance. However, on further analysis it is most likely due to that fact that most candidates have a high level of physical fitness and aptitude prior to applying for a position, given the physical requirements of the role. 89.3% of the candidates achieved scores from 23-25 (from a possible range of 0-25; range for this study being 16-25). This range restriction naturally skews the distribution of the data and creates insufficient variance (spread) to enable the prediction of job performance. In other words, if everyone receives similarly high scores, there is not enough differentiation to predict job performance.

From our observations and discussions with NZFS staff, it is also likely that physical fitness, while being necessary to conduct the job of firefighter, is not as important as other attributes required for day-to-day performance such as applied problem solving skills, taking initiative in non-routine situations, motivation, and showing good work habits.

We also found a limited range of total scores for the Practical Assessment Course assessments (9.34 to 12.88). This limited range was insufficient to create the degree of variance required to predict job performance. This is a statistical artefact and does not necessarily reflect the quality of the practical assessment course or the pre-entry physical assessment.



Conclusions and Recommendations

The results of the study suggest that the information collected in the application form, the Standard Progressive Matrices cognitive test score, and the interview scores are the best predictors of overall firefighter performance. The information collected from the self-assessment, the ACER cognitive tests, the physical pre-entry test scores, and the scores from the practical assessment course did not predict overall firefighter performance.

We recommend continuing the use of the structured application form, administering the Standard Progressive Matrices cognitive test, and maintaining the standardised training given to those conducting recruit interviews to ensure reliability and consistency. We recommend removing the existing self-assessment questions from the selection process, and assessing written communication skills more specifically given that is the criterion of interest in the self-assessment questions.

Although not predictive of job performance in this particular study, we recommend continuing the physical pre-entry test and the practical assessment course to ensure completeness of selection testing. These tests will also provide the candidates with a realistic preview of the physical and applied skills required for the role of firefighter.



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Appendices

1. Information Sheets and Consent Forms
 - a. New recruits
 - b. Recruit trainers
 - c. Station officers
2. Performance Ratings Scale – Post-training
3. Performance Rating Scale – After deployment
4. Performance Rating Guide for Station Officers



Validation of the Firefighter Recruitment and Selection Programme

INFORMATION SHEET

The New Zealand Fire Service has commissioned a research project '*Validation of the Firefighter Recruitment and Selection Programme*'. The study is being conducted by Dr Sarah Wright (Centre for Organisational Research), Professor Mike O'Driscoll (University of Waikato) and Mr Jeff Gibb (People Bridge Consulting). You have been selected by the Fire Service to participate in the research and I am seeking your agreement to be part of the research.

The aim of the study is to check whether the Fire Service recruitment process is selecting the best people for the role of firefighter. To assess the usefulness of the recruitment process, the researchers need to compare the information collected during the recruitment process with performance information once recruits are on the job. To do this, information is required on how well firefighters are performing once they are selected for the job. Please note that the study is about assessing the recruitment process and is not an assessment of individual performance (i.e. it is not a performance appraisal for administration purposes). The information collected during the study will not form part of any performance review and cannot be used by the Fire Service for administration purposes.

As a new recruit you will not need to do anything for the study. With your consent, information will be collected about your performance by your trainers and your Station Officer, using several rating scales developed by the researchers specifically for this study. To check the consistency of the data the study will be conducted over a 15 month period. Information will be collected throughout the country at three time periods; after your training course, and 6 and 12 months after you start your job at the station.

The performance information collected over the study period will be sent directly to the researchers. The information will be coded so individual names will not be recorded with the actual rating information. We are interested in looking at the combined data to draw conclusions about the usefulness of the various stages in the recruitment process. Therefore the Fire Service will receive a final research report which will include only aggregated data, **but the organisation will not have access to performance information of individual firefighters.**

The Fire Service has set up a steering committee that oversees the study. This group includes participation by the NZPFU.

Please sign the enclosed consent form and return it in the reply-paid envelope. If you have any concerns or questions about your participation in the study please contact Dr Sarah Wright on 03 364 3570 or email sarah.wright@canterbury.ac.nz. Thank you for your cooperation.

Dr Sarah Wright



CONSENT FORM

Validation of the Firefighter Recruitment and Selection Programme

I have read and understood the description of the above-named study.

On this basis I agree to participate in the study. I understand that I may withdraw from the study at any time, including withdrawal of any information I have provided.

NAME (please print): _____

SIGNATURE:

DATE:

Dr Sarah Wright
Management Department
University of Canterbury
Private Bag 4800
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As a Recruit Trainer you will be required to provide performance ratings for the new recruits under your supervision. To do this several rating scales have been developed by the researchers specifically for this study. To check the consistency of the information, data will be collected at three time intervals over a 15 month period. New recruits will be assessed by their trainers after their training course, and by their supervising Station Officers 6 and 12 months after they start the job at the station. You will be given the performance ratings to complete confidentially, and will be asked to return these to the researchers. They should take you no longer than 10-15 minutes to complete.

The performance information collected over the study period will be sent directly to the researchers. The information will be coded so individual names will not be recorded with the actual rating information. We are interested in looking at the combined data to draw conclusions about the usefulness of the various stages in the recruitment process. As such, the Fire Service will receive a final research report which will include only aggregated data, **but the organisation will not have access to performance information of individual firefighters.**

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As a Station Officer/Senior Station Officer you will be required to provide performance ratings for the new recruits under your supervision. To do this several rating scales have been developed by the researchers specifically for this study. To check the consistency of the information, data will be collected at three time intervals over a 15 month period. New recruits will be assessed by their trainers after their training course, and by their supervising Station Officers 6 and 12 months after they start the job at the station. You will be given the performance ratings to complete confidentially, and will be asked to return these to the researchers. They should take you no longer than 10-15 minutes to complete.

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Thank you.

Dr Sarah Wright



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NAME (please print): _____

SIGNATURE:

DATE:

Dr Sarah Wright
Management Department
University of Canterbury
Private Bag 4800
Christchurch



Validation Study of the NZFS Recruitment Programme

Name of the Firefighter being rated:

Confidentiality

Your responses are confidential to the Centre for Organisational Research Ltd (the research organisation conducting the study). No Fire Service staff member will see your ratings or comments. No information you provide will be shown to the Firefighter concerned, or be kept on his/her personal file.



Instructions:

Please read each statement carefully and circle the number that best describes the Firefighter's **current** performance. Refer back to the Performance Rating Guide if you have any questions about how to make your ratings. Remember ...

- Be open and honest
- Use the full rating scale when making your assessment

Performance Ratings:

		Poor	Fair	Satisfactory	Very Good	Exceptional
Drive, Energy, and Achievement Focus						
<i>How would you rate this Firefighter's ability to:</i>						
1	Recognise and build strengths in different areas	1	2	3	4	5
2	Learn from success and failures/mistakes, and try to improve weaknesses (e.g. returning after-hours to practice a new skill if needed)	1	2	3	4	5
3	Ask for and accept feedback from others to improve firefighting skills (e.g. during an incident debriefing session)	1	2	3	4	5
4	Approach work positively and efficiently when carrying out routine tasks (e.g. cleaning and maintenance, recovery of equipment)	1	2	3	4	5
5	Demonstrate effort on a day to day basis, even in difficult conditions (e.g. bad weather, excessive smoke/fumes, working 'after-hours')	1	2	3	4	5
6	Give extra effort for necessary tasks without orders or instructions (e.g. during non-drill exercises show initiative to get on with a task, persevere with task, tidy up after exercise without being asked)	1	2	3	4	5
7	Show a high level of commitment and enthusiasm for the work of the Fire Service	1	2	3	4	5
8	Show commitment towards doing the task properly and skilfully (e.g. always checks work is done correctly, pays attention to detail, takes pride in doing the task to a high standard)	1	2	3	4	5
9	Encourage others to have high standards (e.g. challenge shoddy work from co-workers)	1	2	3	4	5



		Poor	Fair	Satisfactory	Very Good	Exceptional
People and Team Work Skills						
<i>How would you rate this Firefighter's ability to:</i>						
10	Show sensitivity and support for others (e.g. appropriate compassion for another's situation, is patient with other team members who may be struggling with a task)	1	2	3	4	5
11	Display helpful, co-operative and well-mannered behaviour when dealing with others	1	2	3	4	5
12	Take the time to get to know everyone in their working environment (i.e. those from different cultures and social backgrounds)	1	2	3	4	5
13	Participate fully in team exercises (e.g. pitch in to help others, happily pick up the slack when a team member is struggling, act as another trainer when required)	1	2	3	4	5
14	Involve others during team exercises (e.g. encourage those who are less assertive)	1	2	3	4	5
15	Remain rational and in control of their emotions during frustrating situations (e.g. doesn't 'lose it' when things go wrong)	1	2	3	4	5
16	Achieve a balance between following orders/instructions, respecting rank, and showing initiative for the team when required	1	2	3	4	5
17	Consider the opinions of others even when they disagree (e.g. takes the time to listen to what the person has said before responding, does not inappropriately butt in when others are talking)	1	2	3	4	5
18	Seek advice or ask for help to improve performance (e.g. ask for help the first time they do a practical training exercise)	1	2	3	4	5
		Poor	Fair	Satisfactory	Very Good	Exceptional
Applied Problem Solving Skills						
<i>How would you rate this Firefighter's ability to:</i>						
19	Quickly learn practical tasks (e.g. use training knowledge to practice the correct techniques for hoses, ladders, Fire Service knots and lines)	1	2	3	4	5
20	Show hands-on, practical skills during training exercises (e.g. uses tools effectively, offers practical solutions to problems)	1	2	3	4	5
21	Show a good understanding of mechanical systems and construction characteristics (e.g. water & electrical systems, fire walls & partitions, roof types, construction materials)	1	2	3	4	5



22	Think things through before an exercise begins (e.g. understand the objectives of the training exercise and puts them into play, uses the techniques demonstrated by the instructors in a training exercise)	1	2	3	4	5
23	Remain focussed when doing more than one task at a time	1	2	3	4	5
24	Solve problems quickly and effectively in difficult situations (e.g. displays good judgement and remains calm/focussed under pressure)	1	2	3	4	5
25	Anticipate problems and prepare for the consequences (e.g. identify hazards on training site and think ahead to eliminate or reduce hazard)	1	2	3	4	5
26	Operate in a safe manner (e.g. use equipment safely, uses protective safety equipment)	1	2	3	4	5

Poor

Fair

Satisfactory

Very Good

Exceptional

Communication Skills

How would you rate this Firefighter's ability to:

27	Use relevant Fire Service computer programmes with ease (e.g. Microsoft Word and Email)	1	2	3	4	5
28	Write clearly and in a structured/well-presented way (e.g. fills in forms correctly, reports are well constructed and free from spelling and grammatical errors)	1	2	3	4	5
29	Speak clearly and appropriately in a variety of situations, so that others understand what is meant	1	2	3	4	5
30	Listen and comprehend what others are saying to them (e.g. comprehending/understanding instructions from recruit instructors)	1	2	3	4	5
31	Use appropriate and respectful language	1	2	3	4	5



		Poor	Fair	Satisfactory	Very Good	Exceptional
Physical Fitness						
<i>How would you rate this Firefighter's ability to:</i>						
32	Show the necessary level of fitness required to perform the job (e.g. does not get puffed when doing duties, lifts, loads and unloads equipment easily)	1	2	3	4	5
33	Recognise when their own fitness levels needs to be improved and takes action to improve their physical strength or endurance	1	2	3	4	5
34	Commit to an ongoing health & fitness maintenance programme (e.g. use of gym, keeping a balanced diet to maintain healthy weight, regular involvement in sport)	1	2	3	4	5

General Performance						
		Consistently Poor	Fair	Satisfactory	Very Good	Exceptional
35	How would you rate the overall performance of this Firefighter?	1	2	3	4	5
<p>General Comments: Please provide any additional comments about the performance of this Firefighter:</p>						

Thank you very much for completing this exercise. Your efforts are greatly appreciated.



Validation Study of the NZFS Recruitment Programme

Name of the Firefighter being rated:

Confidentiality

Your responses are confidential to the Centre for Organisational Research Ltd (the research organisation conducting the study). No Fire Service staff member will see your ratings or comments. No information you provide will be shown to the Firefighter concerned, or be kept on his/her personal file.



Instructions:

Please read each statement carefully and circle the number that best describes the Firefighter's **current** performance. Refer back to the Performance Rating Guide if you have any questions about how to make your ratings. Remember ...

- Be open and honest
- Use the full rating scale when making your assessment

Performance Ratings:

		Poor	Fair	Satisfactory	Very Good	Exceptional
Drive, Energy, and Achievement Focus						
<i>How would you rate this Firefighter's ability to:</i>						
1	Recognise and build strengths in different areas	1	2	3	4	5
2	Learn from success and failures/mistakes, and try to improve weaknesses	1	2	3	4	5
3	Ask for and accept feedback from others to improve firefighting skills (e.g. during an incident debriefing session)	1	2	3	4	5
4	Approach work positively and efficiently when carrying out routine tasks (e.g. cleaning and maintenance, recovery of equipment)	1	2	3	4	5
5	Demonstrate effort on a day to day basis, even in difficult conditions (e.g. bad weather, excessive smoke/fumes, working 'after-hours')	1	2	3	4	5
6	Give extra effort for necessary tasks without orders or instructions (e.g. show initiative to get on with a task, persevere with task, tidy up without being asked)	1	2	3	4	5
7	Show a high level of commitment and enthusiasm for the work of the Fire Service	1	2	3	4	5
8	Show commitment towards doing the task properly and skilfully (e.g. always checks work is done correctly, pays attention to detail, takes pride in doing the task to a high standard)	1	2	3	4	5
9	Encourage others to have high standards (e.g. challenge shoddy work from co-workers)	1	2	3	4	5



		Poor	Fair	Satisfactory	Very Good	Exceptional
People and Team Work Skills						
<i>How would you rate this Firefighter's ability to:</i>						
10	Show sensitivity and support for others (e.g. appropriate compassion/empathy shown in public situations, is patient with others)	1	2	3	4	5
11	Display helpful, co-operative and well-mannered behaviour when dealing with others (i.e. other Firefighters and the public)	1	2	3	4	5
12	Take the time to get to know everyone in their working environment (i.e. those from different cultures and social backgrounds)	1	2	3	4	5
13	Participate fully in the team (e.g. pitch in to help others, happily pick up the slack when a team member is struggling)	1	2	3	4	5
14	Involve others during exercises (e.g. encourage those who are less assertive)	1	2	3	4	5
15	Remain rational and in control of their emotions during frustrating situations (e.g. doesn't 'lose it' when things go wrong)	1	2	3	4	5
16	Achieve a balance between following orders/instructions, respecting rank, and showing initiative when required	1	2	3	4	5
17	Consider the opinions of others even when they disagree (e.g. takes the time to listen to what the person has said before responding, does not inappropriately butt in when others are talking)	1	2	3	4	5
18	Seek advice or ask for help to improve performance	1	2	3	4	5
		Poor	Fair	Satisfactory	Very Good	Exceptional
Applied Problem Solving Skills						
<i>How would you rate this Firefighter's ability to:</i>						
19	Quickly learn practical tasks	1	2	3	4	5
20	Show hands-on, practical skills (e.g. uses tools effectively, offers practical solutions to problems)	1	2	3	4	5
21	Show a good understanding of mechanical systems and construction characteristics (e.g. water & electrical systems, fire walls & partitions, roof types, construction materials)	1	2	3	4	5
22	Think things through before an event/call-out (e.g. understand what is required of them before arriving at the scene)	1	2	3	4	5



23	Remain focussed when doing more than one task at a time	1	2	3	4	5
24	Solve problems quickly and effectively in difficult situations (e.g. displays good judgement and remains calm/focussed under pressure)	1	2	3	4	5
25	Anticipate problems and prepare for the consequences (e.g. identify hazards on and think ahead to eliminate or reduce hazard)	1	2	3	4	5
26	Operate in a safe manner (e.g. use equipment safely, uses protective safety equipment)	1	2	3	4	5
		Poor	Fair	Satisfactory	Very Good	Exceptional
Communication Skills						
<i>How would you rate this Firefighter's ability to:</i>						
27	Use relevant Fire Service computer programmes with ease (e.g. Microsoft Word, Email, FireNET)	1	2	3	4	5
28	Write clearly and in a structured/well-presented way (e.g. fills in forms correctly, reports are well constructed and free from spelling and grammatical errors)	1	2	3	4	5
29	Speak clearly and appropriately in a variety of situations, so that others understand what is meant (e.g. with the general public and fellow Firefighters)	1	2	3	4	5
30	Listen and comprehend what others are saying to them (e.g. comprehending/understanding instructions, listen and comprehend in public situations)	1	2	3	4	5
31	Use appropriate and respectful language	1	2	3	4	5



New Zealand Fire Service

Validation Study of the Firefighter Recruitment & Selection Programme



Performance Rating Guide:

Information for Station Officers / Senior Station Officers

June 2007



What is the research about?

The New Zealand Fire Service is currently looking at the effectiveness of the recruitment process for selecting Trainee Firefighters. The organisation needs to see if the recruitment process is effective at selecting top performing Firefighters. The research will help the Fire Service check to see if any changes need to be made to the recruitment process.

Who is conducting the research?

The research study has been commissioned by the Fire Service and is being conducted by Dr Sarah Wright (Centre for Organisational Research), Professor Mike O'Driscoll (University of Waikato) and Mr Jeff Gibb (People Bridge Consulting).

What does the study involve?

To do the study, the researchers need to measure the relationship between the applicant's assessments during the recruitment process with their performance once they are on the job.

Performance rating scales have been specifically designed for the study to measure the new recruit's performance on the Fire Service competencies. The scale items have been developed by the research team with the input and guidance from the Fire Service Steering Committee set up for the study.

The recruit's performance will be measured three times over a 15 month period. They will be assessed by their trainers after the training course, and by their supervising Station Officers 6 and 12 months after they start the job at the station. The purpose of collecting this information is not to assess the recruits' performance per se, but to evaluate the effectiveness of the recruitment process.

Why have I been chosen to participate in the study?

You have been asked to participate by the Fire Service due to the supervision responsibilities you have with recruit Firefighters.

What do I have to do?

As a Station Officer/Senior Station Officer you will be required to use the attached rating scales to rate the performance of the new recruits 6 and 12 months after they have finished their initial training. You will be sent the rating scales to complete by the researchers, and will be asked to return them directly to the researchers. It is really important that you are honest in your assessment of the firefighter. All performance ratings are completely confidential to the researchers.

How much time will it take?

The performance ratings will take approximately 10-15 minutes per recruit to complete.



How do I make the ratings?

The performance rating scales are made up of 35 items relating to Firefighter performance. Each item has a score, ranging from 'Poor' to 'Exceptional' performance. You will be required to give each recruit a score for each item. The scores are defined as follows:

Score	Definition
Poor	Firefighter performs well below the expected standard.
Fair	Firefighter performs below the expected standard required.
Satisfactory	Firefighter performs at the expected standard required.
Very Good	Firefighter performs above the expected standard required.
Exceptional	Firefighter performs well above the expected standard required.

For example, when you are making the rating for the item "Recognise and build strengths in different areas" you need to make a judgement about how the recruit uses their strengths (e.g. physical strength, mental aptitude, team building skills, etc) to improve their performance on the job. Your rating will reflect the observations you have made of their performance over the past six months.

Remember, although the recruits have been deemed successful during the recruitment process, it does not necessarily mean they are performing highly in all areas of the Firefighter role. In order for the research to be informative, we need accurate data on how well the recruits are *actually* doing now that they are on the job. This means you need to assess each item separately and make use of the range of scores available - from 'Poor' to 'Exceptional' – where this is warranted.

It is very important you focus on how well the recruit has performed over the entire six month period, and not just on first impressions or their performance in recent days or weeks.

Try not to judge the recruit's performance on their character or the personality traits you may have attributed to them (e.g. lazy or selfish, friendly or compassionate). For this exercise, you must make the ratings on what you have observed them doing on the job.

How will the information be used?

The information will be sent directly to the Principal Researcher and used to find out the statistical relationship between how well the recruits do during the recruitment process compared with how well they do on the job. The researchers will then provide the Fire Service with recommendations to enhance the recruitment process, if necessary.

Who will see the Results?



The information you provide will only be seen by the researchers. The research is not connected to any internal performance management process, such as promotions, etc. **The Fire Service will not have access to performance information of individual firefighters.**

Please note ...

- Independent researchers will conduct the research and analyse the results
- The research has been granted ethics approval
- The research is supported by the NZ Professional Firefighters Union

If you have any questions relating to the study or how to make the performance ratings, please contact Sarah Wright ...

Email: sarah.wright@canterbury.ac.nz

Telephone 03 364 3570

Thanks very much for your support.

Research Team

Dr Sarah Wright	Principal Researcher
Prof Michael O'Driscoll	Researcher
Jeff Gibb	Technical Advisor

New Zealand Fire Service Steering Committee

Vince Arbuckle	Director of Human Resources
Geoff Purcell	Recruitment Manager
Ray Brown	Recruit Programme Manager
Jon Graham	Chief Fire Officer
Peter Wilding	Deputy Chief Fire Officer
Paul McGill	Director Operations and Training
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