

Trust, Cohesion and Risk Type in Firefighters

Risk Type Compass

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Fighting fires is a dangerous occupation. Compared to the general population, firefighters have a much higher hospitalization rate (Lee et al., 2004), not least due to the inherent risks of the role (Fender, 2003).

Recent years have also witnessed a diversification of risks. After excluding false alarms, Home Office (2019) figures indicate that firefighters in England attended over 340 thousand incidents in the year ending June 2019. Of these, 47% were classed as non-fire incidents. The form these incidents take varies, with firefighters required to deal with medical incidents, road traffic collisions and suicide attempts.

The diversification of potential incidents elicits a broader variety of responses, decisions and expectations for firefighters to contend with. Given the risky nature of the role, this places greater need for consideration not only on individual risk dispositions, but how these may differ in the context of a team.

With this in mind, the current research wanted to explore several questions:

- How do firefighters perceive the risks within their jobs?
- Is there a specific risk profile more common in firefighters?
- How do firefighters remain effective in high-stakes situations?
- Is there diversity of temperament within teams?
- How do individual and team dynamics interact?
- How might relationships with other departments impact on operational efficiency and effectiveness?

The Research

The researcher adopted a mixed-methods design that incorporated both semi-structured interviews and a psychometric assessment. All participants were UK-based firefighters of varying seniority.

Interviews

Semi-structured interviews were conducted with six firefighters. All participants were male. The primary themes explored during the interview included the risk taking of participants and the degree of team cohesion, with further exploration of tolerance ambiguity, knowledge sharing and trust.

The Risk Type Compass

The [Risk Type Compass](#) (Trickey, 2017) was administered to 32 participants, two of whom were female. Completing this 82-item assessment provides a score on two scales. The combination of scores on these two scales is used to locate participants in one of over 200 positions of a 360° spectrum (see Figure 1 below). This location also serves to assign participants to one of eight 'Risk Types' (or an 'Axial' group), as well as providing a score on the 'Risk Tolerance Index' (RTi).

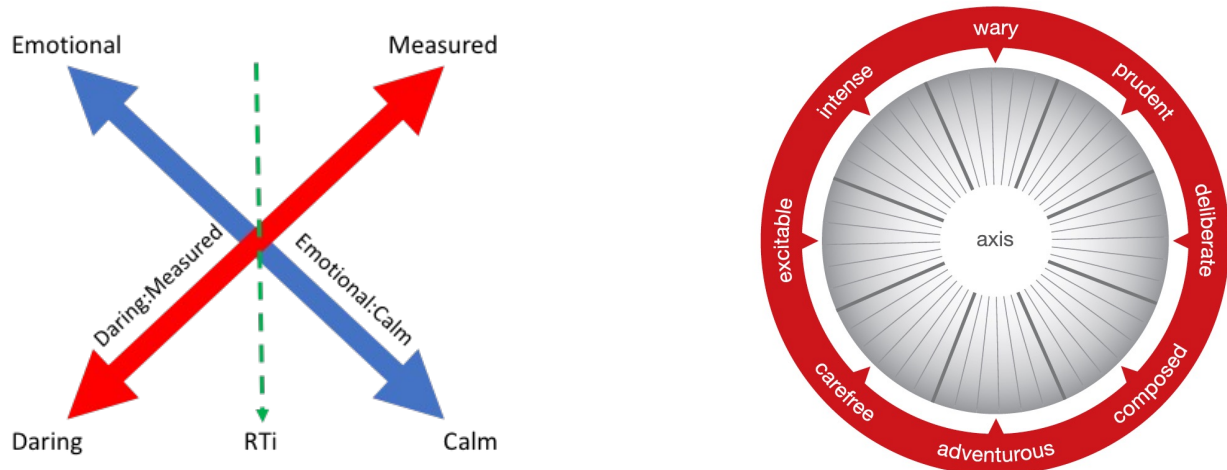


Figure 1. Structure of the Risk Type Compass' underlying scales (left) and resulting 'Compass' (right)

The two underlying scales in the model used by the Risk Type Compass represents two broad influences on risk tolerance and decision making. Combining these two scales create both the RTi scale and Risk Type category. The Emotional:Calm, Daring:Measured, and RTi scales possess test-retest reliability coefficients of '.92', '.91' and '.96' respectively, supporting Trickey's (2017) assertion that the Risk Type Compass assesses stable and deeply-rooted personality traits. Data from over 13 thousand administrations indicates that these Risk Types are evenly distributed across the general population.

Trust

People employed in the Fire & Rescue Service are highly dependent on each other. The inherent danger of firefighting makes trust in peers an essential factor when it comes to effectiveness and safety of F&R teams. In light of this interaction between risk and trust, the following question emerges:

Do firefighters trust risk tolerant or cautious peers on the fireground?

In addition to asking this question in the semi-structured interviews, the researcher also included Cook and Wall's (1980) 3-item 'trust in peers' measure (e.g., "If I got into difficulties at work, I know my colleagues would try and help me out").

Social Cohesion

On-duty Firefighters are not constantly fighting fires. They also spend a great deal of time together at the station. They have lunch together, spend Christmas evening together, and often sleep in the same room. This is a distinctive feature of the firefighting industry. It is therefore likely that firefighters are socially closer to their colleagues relative to people in other industries. This led the researcher to include interview questions designed to explore whether this "social cohesion" makes F&R teams more effective and safer. Questionnaire items adopted from Widemeyer, Brawley and Carron (1985) also addressed this topic (e.g. Our team would like to spend time together outside of work hours). This also enabled the research to explore whether firefighters tend to be closer to more or less risky colleagues.

Findings

Findings were based on both qualitative and quantitative analyses and emerged at three broad and ascending levels: Individual, Team, and Organisation.

Individual Risk Taking

A key theme that emerged from the findings was the need for 'risk balance'. This balance took the form of two factors: 'Individual risk tendency' and 'judgement'. Analysis reflected that these two factors were not only significant, but at times in conflict with one another.

Findings indicated that firefighters were rarely risk averse, suggesting that a degree of risk tolerance was necessary to do the job. Findings also noted that younger firefighters seemed to be keener and more risk taking compared to their older more experienced colleagues. This was noted by a senior colleague when asked about their younger colleagues:

"Once the adrenaline's ramping up and they're excited they just want to go on and would not look at the surroundings"

Witnessing younger colleagues influenced in this manner was a recurring feature of older firefighters' accounts. Findings suggested that whilst risk-seeking tendencies did occur in individuals within the sample, the impact of training, team influence, and job experience would serve to counteract these tendencies over time. As one participant commented:

"That's what I mean, you're nervous but once you get used to it, second nature"

Perhaps one of the key themes to emerge from the points above was the factor of judgement. The need to exercise restraint and assess the situation dispassionately was often cited by participants as an important skill to develop. Participants indicated an increased likelihood that inexperienced firefighters would be more inclined to make decisions intuitively. This effect appears to be recognised in the training, which aims to compensate for it by teaching the procedural risk assessment that firefighters must learn. This includes collecting as much information as possible before acting. This allows a more rational assessment in which firefighters 'read' the situation before determining whether a riskier approach is justified.

The Risk Type Compass can effectively assess individual risk tendencies and provide team leaders and firefighters with insight into the variability of their risk tendencies and provides a vocabulary of Risk Type which is intuitive and easily understood. This can be useful especially in the case of new firefighters in making informed judgements about the quantity and focus of training needed to counter any potentially strong temperamental risk-taking tendencies. This increased insight would also benefit team leaders, enabling them to consider the particular risk tendencies of individuals when coordinating firefighters on the fireground.

Team Risk Taking

Findings emerging from the RTC indicate a balance of risk-taking propensity at team level. The sample of 32 firefighters scored slightly more towards the 'Emotional' and 'Daring' ends of the Emotional:Calm and Daring:Measured scales respectively. Although scores were not significantly different from the general population, this does suggest that, whilst individual firefighters will vary in risk-relevant personality characteristics, these elements are likely to balance out when functioning as a team.

However, both qualitative and quantitative results show that Risk Type still has an influence on factors related to effective teamwork. For example, participants scoring towards the 'Daring' end of the 'Daring:Measured' scale (around the Carefree Risk Type segment of the 'compass') were more likely to report greater social cohesion ($r = -.36, p < .05$). This indicates that potentially risk-seeking individuals are more likely to instigate and develop social friendships with colleagues both inside and outside of work. This is likely due to their more excitable and extroverted nature. These complementary risk dispositions can be important in building teams. Including both risk-seekers and cautious firefighters in a team could bring firefighters closer together than is the case in teams without risk-seekers.

Findings also indicated a negative relationship between age and social cohesion ($r = -.48, p < 0.01$), which is likely due to external factors like family commitments that limit out-of-work socialising with peers. Matching both older and younger firefighters in teams could counter this as well as fostering knowledge sharing between old and young firefighters.

Considering the factor of trust, the interviews show that firefighters are more likely to trust colleagues who were calm about risks:

"The last person you want in an operation next to you is somebody who is hyper about it and too excited about it, that's the last you want. You want somebody that is going to be calm about it. Otherwise, you don't know where they're going to be, you don't know whether they're listening to you."

The interviews also suggest that firefighters unsurprisingly tend to trust their experienced colleagues more. This is attributable to the greater degree of knowledge and experience possessed by senior firefighters, which helps them remain calm and elicit trust in critical situations.

An additional insight into propensity to trust emerged through a moderate significant correlation with the 'Emotional:Calm' scale ($r = .46, p < .01$), indicating that firefighters who are calm about risks generally trust colleagues more. In other words: firefighters who do not get emotional, excited or anxious in the presence of risk tend to have greater trust in their colleagues.

One practical implication emerging from these results could be that factors like calmness about risk and experience could prove particularly advantageous for positions involving leadership.

The previously mentioned diversification of tasks facing Fire & Rescue services has become a more significant consideration for the industry. Therefore, heterogeneity of risk-personalities could be advantageous on a team-level. A theory that supports this suggestion is the 'Social Defence Theory' (SDT). SDT posits that heterogeneity can lead to greater team effectiveness in comparison to more homogeneous groups (Ein-Dor et al., 2011). Linking this to the case of a F&R team tackling a fire, team effectiveness could be increased by balancing risk-seeking vs. cautious and emotional vs. unemotional firefighters.

Moreover, the qualitative interviews suggest that, over the last decade, heterogeneity in firefighting teams has increased. Whilst the firefighting culture used to be dominated by masculinity and emotional detachment, recent years have witnessed more females joining the occupation and "non-masculinity" become more accepted. An example of this culture change is the growth and development of the Firefighters' Charity, which not only supports firefighters experiencing medical problems (e.g. injury, rehabilitation) but with issues of mental health.

Organisational Risk Taking

Whilst the interviews and Risk Type Compass results deliver implications for the work of firefighters at individual and team levels, the effectiveness of Fire and Rescue Services also depends on an extended network of other departments (e.g. HR, social media, etc.). Interviewees described significant differences in tasks and culture between the brigades and other departments, resulting in various conflicts arising. Future research could usefully explore whether these conflicts arise in part due to differences in the risk-personality characteristics involved.

Given that the research showed firefighters tend to be temperamentally risk-tolerant, one assumption to explore is that risk-tolerance is less common in the departments compared to the brigades. The Risk Type Compass – administered in greater numbers in F&R Services across the UK – could provide an 'organisational fingerprint' of risk-personalities to display potential differences between departments or between brigades.

Since risk-personalities are not only relevant for situations of risks but also determine how individuals make decisions in general, this could help explain why some brigades or departments work together more effectively than others. Greater understanding, mutual support and trust between administrative departments and operational fire fighters would restrain the development of relationships that are potentially counterproductive. This is somewhat analogous to the risk-critical relationships between pilots and ATCs.

Summary

The importance of risk-personalities in the firefighting occupation emerges at three levels: individual, team and organisation.

At an individual level, risk personality is relevant given the degree of risk and danger inherent in the role of firefighting. The interviews demonstrate that effective firefighters compensate for any pre-existing risk-taking tendencies using strategies developed through training and experience. Training is designed to instill the propensity to assess risk systematically in addition to intuitional decision making on the fireground. These strategies enable firefighters to remain calm and more aware to potential danger without losing the impetus to act when needed.

At a team level, certain elements of risk personality have a positive impact on trust and cohesion. For example, calmer people typically trust colleagues more whilst more 'excitable' individuals tend to be more socially cohesive. Thus, building more resilient teams of firefighters that include combinations of Risk Types that are effective in terms of high trust and social cohesion should be optimal.

Certain characteristics of risk personality may appear advantageous for certain positions but given the growth and diversification of F&R responsibilities, increasing the heterogeneity of teams could lead to improvements in efficiency and adaptivity to a degree that homogenous groups are unlikely to match.

The insight provided by understanding individual differences also extends to the wider organisation. Recognising the impact of risk dispositions on decision making and outcomes can only help to improve interactions and cohesion at the inter-departmental level.

About the Authors

Daniel Berghaus graduated with an MSc in Occupational Psychology from the University of Hertfordshire in 2019. His professional interests lie in the organisational development, training and workplace assessment. He is particularly driven to explore what makes people work efficiently together. He currently works as a Junior Consultant at Meta | Five Human Performance Consulting in Cologne, Germany. As Business Psychologist he seeks to dedicate his career to applying psychology at the workplace promoting, developing and supporting people in their professional development.

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