

## **The Importance of Soft Factors in High Risk Environments – Motivational Aspects as Antecedents of Commitment at a Security Checkpoint**

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**Abstract:** The security checkpoint at an airport represents a complex sociotechnical system, in which errors can have devastating consequences. A high identification with the workplace is a central condition for security. The study investigated whether commitment can be predicted by the motivational potential of the workplace by Hackman and Oldham (1975) and individual extrinsic and intrinsic work motives. 334 certified screeners were surveyed through an online questionnaire. A regression analysis showed a significant interaction between extrinsic motives and the motivational potential score (MPS) on commitment. However, this effect disappeared by including intrinsic motives. Further, there was a significant prediction of the two intrinsic motives achievement and affiliation on commitment. The results highlight the importance of intrinsic motives in the high-risk environment of a security checkpoint.

**Keywords:** commitment, work motives, security control, insider threat

### **1. Introduction**

The security control of an airport can be seen as a high-risk environment. Its purpose is to prevent terroristic attacks at an airplane. Due to high security regulations this workplace contains less autonomous working conditions. Nevertheless, security staff has to be continuous alerted and aware of possible security threads.

Soft factors such as motivation or commitment become more and more important over the last years (Meyer et al. 2004; Steers & Shapiro 2004; Van den Broeck et al. 2016). Employers have recognised that monetary incentives alone are not sufficient to influence the work performance of their staff. Especially, in such a sensible workplace as the security control the consideration of motivational aspects both of the working context as well as of individual work motives of employees are of great importance.

The aim of the study was to investigate the impact of motivational aspects on commitment in the context of a security control at an airport. A strong identification with the workplace and security in general is of great value, because missing identification can lead to a possible security thread and could constitute a vulnerability (Gray & Tejay 2014).

### 1.1 Commitment

In recent years, commitment has been the centre of work and organisational psychology research (Meyer & Herscovitch 2001). Commitment displays the state in which an employer identifies with his or her company and wants to stay in the workplace (Gautam et al. 2004). For employers, the nature of the relationship between commitment and work performance and how this relationship could be influenced is of high interest.

The study considered commitment with regards to security context, because in a high-risk environment commitment is one part of the fight against possible threats such as insiders (Baeriswil et al. 2016). Security staff with access to sensitive information and areas, but not committed with the workplace and the task itself, can be a potential security risk (Gray & Tejay 2014). The study aims to provide insights what employers can do to promote commitment – from a work design perspective as well as an aspect in staff recruiting.

### 1.2 Motivational Potential Score (MPS)

In a perfect world, work is motivating so that employees perform well. What can employers do to create a motivating work environment? Hackman and Oldham (1975) developed in the early eighties a model, which lays the theoretical background for motivating work conditions. Their model consists of five aspects – skill variety, task identity, task significance, autonomy and feedback from the job – which are summarised in a formula representing the different weights of the aspects:

$$\left( \frac{\text{skill variety} + \text{task identity} + \text{task significance}}{3} \right) \times \text{autonomy} \times \text{feedback from the job}$$

In the context of security controls at airports it is hardly possible to always ensure all of the named aspects. Especially, autonomy is very limited due to strict security regulations. Furthermore, the level of the generated security is in most cases not directly perceivable to the screeners: as long as nothing happens security is guaranteed.

The authors of this study were interested in the interplay between factors that can be influenced by the employer – such as work environment and recruiting aspects – and commitment. A former study by Faraji et al. (2015) showed a significant correlation between MPS and organizational commitment. Therefore, it was hypothesized that commitment can be predicted by MPS (H1) with regards to the security context.

### 1.3 Individual work motives

Not everything can be influenced by the employer. Every possible employee entails its own personality and attitude towards work. Some people consider work as a possibility to achieve personal goals, others work on a purely monetary reason (Liu & Wohlsdorf Arendt 2015). Particularly in the security context, it is of great importance that staff are aware of the responsibility they carry. People with high financial motives could be vulnerable for criminal intentions (Priescu et al. 2009).

Research on work motives is primary based on McClelland's theory of needs (1985). This theory differentiates between three basic motivations: need for achievement, for affiliation and for power. Next to these intrinsic motives, when

talking about work motives, it can be assumed that it exists a fourth, rather extrinsic motive, namely the job motive (Liu & Wohlsdorf Arendt 2015). It is important to differ between intrinsic and extrinsic motive types, because they contribute differently to ones' commitment (Bullock et al. 2015).

The relevance of a motivating work environment differs between people. For example, in the case of a rather extrinsic motivated worker, who is more interested in wage and social benefits, a motivating work environment does not have such a strong effect as it might have for a worker with more intrinsic motives, who sees work as a possibility to achieve something, be in social contact or exercise power. By asking employees of a security controlling entity at an international airport, this study aimed to find out whether individual work motives moderate the relationship between MPS and commitment. Based on the prior argumentation, the authors hypothesized that there is a significant interaction of MPS and extrinsic work motives (i.e., job) on commitment (H2), in the way that the direct relationship of MPS and commitment becomes weaker for a strong extrinsic work motive. Moreover, the authors assumed that there is a significant interaction of MPS and intrinsic work motives (H3), in the way that the relationship between MPS and commitment becomes stronger for a high intrinsic work motive. Due to the fact that research showed that work motives vary between different stages of life, age was included as a control variable (Kooij et al. 2011).

## **2. Method**

For this study, 334 screeners at an international airport had been surveyed through an online questionnaire. The questionnaire contained scales to measure commitment, the motivating potential of the workplace and individual work motives.

### *2.1 Measurements*

Commitment had been measured with three items selected from the organizational commitment scale by Allen & Meyer (1990).

The motivating potential based on five scales with three items each from the German Version of the Job Description Survey by Schmidt and Kleinbeck (1999) and were calculated to the motivating potential score (see formula in chapter 1.2).

To measure the individual motives to work, the authors used 23 items obtained from the study by Liu and Wohlsdorf Arendt (2015) including seven items for the job motive, five items for the affiliation motive, six items for the achievement motive and five items for the power motive.

### *2.2 Procedure*

As part of a comprehensive employee survey 944 employees were asked to fill out an online questionnaire to motivational aspects of work. 95 employees did not have an email address and were requested through a paper and pencil questionnaire. 334 screeners completed the survey, which represents a response rate of 35%. The participation was voluntary and absolute anonymity was guaranteed. Approximately three months later all employees received a detailed report about the results in the form of an article in the intern staff magazine.

### 3. Results

A three-step hierarchical multiple regression was calculated with commitment as the dependent variable thereby controlling for age to investigate the research hypotheses. MPS was entered in the first step, the extrinsic motive (i.e., job) and the interaction term in the second step, and in the last step the intrinsic motives and the interaction terms. Table 1 shows the results of the regression analysis. MPS was found to be a significant predictor of commitment confirming H1. As predicted by H2, job was found to be a significant moderator of the relationship of MPS and commitment. The model was significantly better compared to the first model,  $F(2,336) = 22.26, p < .001$ . Hypothesis H3 could only be partially confirmed, as some of the intrinsic motives were significant predictors (see Table 1 on the next page). However, there was no moderating effect of the intrinsic motives. Further, by including intrinsic motives, the effect of the extrinsic job motive disappeared. The last model was significantly better than the second model,  $F(6,330) = 30.44, p < .001$ .

### 4. Discussion

This study showed that the motivational potential of the work (MPS) (Hackman and Oldham 1975) is an important predictor of the commitment to work. The detected relationship between MPS and commitment is in line with previous research (Faraji et al. 2015). Furthermore, the study extended this finding by including work motives as moderators. With regard to work motives, it is important to distinguish between extrinsic and intrinsic motives. A purely extrinsic work motivation (i.e., financial motivation) could be critical, as it could provide an entry point for criminal intentions (Priescu et al. 2009). The study found that the relationship between MPS and commitment is moderated by extrinsic motives. However, this effect disappeared after including intrinsic work motives. More precisely, the intrinsic motives need for achievement and need for affiliation are significant predictors for the commitment to work. This result highlights the importance of intrinsic work motives in the security context.

The relationship between affiliation motive and commitment is not that surprising as both concepts relate to feeling close to a group of people and identifying with them, respectively (McClelland 1985). However, the connection between the achievement motive and commitment is less obvious. One reason for the prediction of the achievement motive on commitment is perhaps due to the fact that people with high achievement motives perceive their job as positive, which might have a positive effect on commitment to the organization and the work itself (Liu & Wohlsdorf Arendt 2015). For employers, it is beneficial to select intrinsic motivated staff, because people with high achievement motives tend to show higher performance levels (McClelland 1975).

Especially at high-risk workplaces, the fulfilment of extrinsic aspects such as wage, job security or social benefits is crucial. Nevertheless, the mere fulfilment of these aspects is not enough to ensure commitment to work and to the employer. Intrinsic aspects are rather important. Employers should take these results into account when it comes to the recruitment of new staff. A strong job motive alone can undermine the effect of motivating measurements. The combination of a promoting working context and staff with high intrinsic motives, naming affiliation and achievement motives, support the desirable commitment of workers.

This study investigated the interplay of work motives, working design and commitment in the context of a security checkpoint. With regard to the findings, it is worthwhile to adapt this research to other high risk working fields, such as emergency management or military.

**Table 1.** Linear model of predictors of commitment.

Variable	<i>b</i>	<i>t</i>	SE B	<i>p</i>	R2
Step 1					0.20
Intercept	3.16	27.66	0.11	<.001	
MPS (centred)	0.01	8.22	0.00	<.001	
Age 30 – 39 years	0.29	1.91	0.15	.06	
Age 40 – 49 years	0.41	3.00	0.14	.003	
Age 50 – 59 years	0.50	3.78	0.13	<.001	
Age 60+	0.59	3.08	0.19	.002	
					.27
Step 2					
Intercept	3.11	28.47	0.11	<.001	
MPS (centred)	.004	5.72	0.00	<.001	
Job (centred)	.45	6.16	0.07	<.001	
MPS x Job	-0.00	-2.02	0.00	.04	
Age 30 – 39 years	0.30	1.98	0.15	.048	
Age 40 – 49 years	0.40	3.00	0.14	.003	
Age 50 – 59 years	0.51	3.86	0.13	<.001	
Age 60+	0.59	3.10	0.19	.002	
					0.38
Step 3					
Intercept)	3.20	30.17	0.11	<.001	
MPS (centred)	0.00	3.61	0.00	<.001	
Job (centred)	-0.00	-0.83	0.10	.41	
MPS x Job	-0.00	-1.14	0.00	.25	
Achievement (centred)	0.40	4.27	0.09	<.001	
Affiliation (centred)	0.20	2.47	0.08	.01	
Power (centred)	0.00	0.69	0.09	.49	
MPS x Achievement	0.00	0.04	0.00	.96	
MPS x Affiliation	0.00	0.07	0.00	.94	
MPS x Power	-0.00	-0.00	0.00	.99	
Age 30 – 39 years	0.27	1.90	0.14	.06	
Age 40 – 49 years	0.31	2.40	0.13	.02	
Age 50 – 59 years	0.34	2.70	0.13	.01	
Age 60+	0.34	1.80	0.19	.07	

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**Acknowledgment:** The authors would like to thank Zurich Airport AG for their kind support.



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Arbeitswissenschaft e.V.

## **Soziotechnische Gestaltung des digitalen Wandels – kreativ, innovativ, sinnhaft**

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**GfA Press**

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**Bericht zum 63. Arbeitswissenschaftlichen Kongress vom 15. – 17. Februar 2017**

**FHNW Brugg-Windisch, Schweiz**

Herausgegeben von der Gesellschaft für Arbeitswissenschaft e.V.

Dortmund: GfA-Press, 2017

ISBN 978-3-936804-22-5

NE: Gesellschaft für Arbeitswissenschaft: Jahresdokumentation

Als Manuskript zusammengestellt. Diese Jahresdokumentation ist nur in der Geschäftsstelle erhältlich.

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USB-Print: Dr. Philipp Baumann, Olten

**Screen design und Umsetzung**

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