TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 6: Future direction
6.1: Implementation plans and methodologies

HUMAN PERFORMANCE – RESEARCH PROJECT TOWARDS A HOLISTIC HEALTH MANAGEMENT PROGRAMME

(Presented by South Africa)

SUMMARY

This information paper describes South Africa's progress regarding research and implementation associated with a holistic health programme.

1. INTRODUCTION

1.1 Aviation Safety is not the quest for zero defects, but zero defect itself and the continuous certification and maintenance thereof.

1.2 Throughout the world, the health assessments of those subjected to aviation medical assessments; have to comply with prescribed criteria as determined by statutory aviation regulatory authorities.

1.3 With specific reference to pilots and air traffic controllers, this process is conducted by a certified aviation medical examiner, within a specified protocol and regime. The current process essentially focuses on physical health with the emphasis on coronary, pulmonary, audiological and visual acuity.

1.4 The emotional and behavioural condition is not assessed. At most, generic questions are posed to the patient/aviator within this domain, but no assessment is truly made, measured or detected.

1.5 This iniquity has been challenged within various aviation spheres in South Africa since 1988. As a result, the iniquity of incomplete, but also inconclusive medical and health certification has been identified as a subject of discussion, as well as an aviation safety imperative.

1.6 South Africa has pursued guiding principles and best practices based upon international interactions that to date, has elicited unanimous support from an array of aviation industry stakeholders, but with extreme sensitivity, if not trepidation by airlines and aviation statutory organizations alike.

1.7 It must be stated that in no instance has the relevance or the integrity of this proposed comprehensive health certification either been ignored or refuted. The issues of authentication, aviator disqualification and the fear of exposure appear to have inhibited progress.

1.8 Issues of stigmatization, and the fear of career-limiting prospects of exposure, continue to militate against the universal utilization of professional services in the domain of aviation-mental and

emotional health, with the result that much of the work currently done, is of a *covert* nature, with very limited reporting to employers and authorities. The career limiting prospects remain a feared and daunting matter for most, with the result that those who genuinely qualify for help and treatment often disguise the condition, with an enduring impact and consequently *fake* comprehensive and holistic health.

1.9 In South Africa it was discovered, that numerous operational staff experienced performance limitations as a result of social stressors that required assistance for the sake of maintaining a safe operation. An independent expert engaged with ATNS on the potential for a holistic health project culminating into ATNS' sanctioning of a limited research project in order to assess the relevance of holistic health and health assessment and certification.

2. RESEARCH DESIGN

2.1 It was decided not to engage in a quantitative or an empirical research model. Without personalization at the interface with the participants, the apprehension and even rejection of the notion of mental health assessment by psychologists would compound. Therefore a qualitative personal interview strategy was followed.

2.2 Participants were guided into contextualising themselves within their specific aviation domain in response to the open-ended questions posed and contextual/situational dynamics present. This proved to be the correct philosophy and practice.

2.3 A draft interview guide/questionnaire was constructed, using comprehensive health assessments as hypothesis and research objectives as guidelines for the selection of questions. Subsequently the questionnaire was submitted to an air navigation service provider for comment and ratification. Furthermore, the questionnaire was *tested* amongst some of the researchers in order to ensure relevance and reliability (Table 1).

2.4 A sample of forty volunteer ATCs from six Air Traffic Service Units (ATSUs) participated in the initial phase of the research. The sample represented 10% of the total operational staff complement and was representative of both the larger international and regional airports within South Africa.

2.5 A panel of five researchers were invited to conduct the research and subsequently deployed to the various ATSUs.

2.6 All the interviews were conducted on a private and individual basis, except in the case of a single regional ATSU, where a collective session with three ATC's was also conducted in order to elicit group debate and cross-stimulated responses. The research design and format has proven effective, given the openness and keen participative spirit which prevailed in all instances.

3. RESEARCH FINDINGS – EXPERIMENTAL PHASE

3.1 The five field researchers met subsequent to the completion of the actual interface phase of the project to discuss the completed questionnaires, experiences with ATC's during the interviews, general observations, as well as derived conclusions and recommendations.

3.2 It was also a session during which hypotheses were corroborated, the validity and reliability of the instrument reviewed, as well as the authenticity of the individual responses from the interviews.

3.3 It was further an opportunity to cross-correlate findings, both in terms of recorded responses and general observations amongst the researchers, all in the interest of integrating data and ultimately formulating a collective set of conclusive recommendations.

3.4 The emphasis throughout this entire intervention has been on the experiential dimensions of the ATC in action, but also those concomitant situational factors, which shape and affect the ATC in a more holistic context. All concomitant factors were researched and integrated, particularly so as not to exclude inter alia socio-cultural, economic, relational, domestic, vocational, demographic and manifested emotional dimensions during the interview itself.

3.5 What is not included in the findings, were personal matters, voluntarily released by respondents. In this regard though, it can be reported that a significant number of respondents intimated the need for personal counselling in both personal and career domains.

3.6 The integrated ATC attribute ranking and rating profile reveal some very interesting results, but also some conflicting responses.

Table 1. Integrated ATC attributed ranking and rating profile

ATC ATTRIBUTED RANKING	**Rank 1-11**
Attention to detail	5
Mental alertness	2
Stress control	9
Emotional stability	11
Authoritativeness	8
Communication skill	3
Deductive reasoning	6
Anticipatory skill	7
Situational alertness	1
Assertiveness	4
Self-management/control	10

3.7 Looking at the top ranking dimension "*Situational Alertness*", it is very significant and consistent throughout the response profile. The lowest ranking dimension is "*Emotional Stability"*, followed by "*Self Management/Control"* and "*Stress Control"*. These three criteria relate to equilibrium, balance and very specifically to self management within the emotional domain, highlighting the intrinsic composition, balance and stability of the individual, which was substantiated during the oral part of the interviews, as an individual responsibility and not constituting a major pathology/problem at this time.

3.8 Regarding the responses on the forty items in the experimental and explorative questionnaire, this report records the main pertinent responses received from the researchers during the integrating workshop based upon those dominant criteria of frequency and intensity as an arbitrary listing.

3.9 The major response-based findings during the experimental phase of the research are:

a) domestic issues compound stress;

b) realizing there is almost no room for error;

c) the impact of consequence on the subconscious mind;

d) work life unbalance;

e) ATC attributes required: assertiveness; communication skills; stress management; situational control; handling different cultures at different towers;

f) culpability and accountability;

g) personal risk of making mistakes/causing an accident;

h) whilst sharing is very important, revealing can be dangerous;

i) many respondents record that they are often concerned about colleagues and would confront and assist;

j) need training in situational attitude and understanding human behaviour;

k) 50% of all respondents admit that they have, and currently do, conceal conditions which otherwise would qualify for attention if not treatment;

l) skill is very visible whereas mental pathology is silent and undetectable;

m) "We get away with unwellness";

n) an holistic health intervention requires a specialist that will complement the physical medical examination;

o) most common mental/behavioural deficiencies/problems for ATC's: alcohol abuse; burn-out; relational intrigues/conflicts;

p) it is a very dangerous situation when the condition and its consequence are not known or understood by an operational employee;

q) "I am not aware of what I might be suffering from and which could affect my career";

r) the fact that I dare not, and cannot reveal my condition, compounds the condition;

s) 100% of respondents indicate that the risk is not detected and not revealed;

t) "I know how to hide it";

u) "We often detect something erratic in a colleague and would then openly discuss as peers, but never report higher up";

v) social lifestyles constitute a problem, although it is outside of work (alcohol);

w) 100% of respondents report that they will discuss any work related issue, but never risk revealing anything personal; and

x) the most common mental problems for ATC's are: stress, anxiety, sleep disorders, irritability, anger, relational issues, inability to switch off, fear of being caught out.

4. EXPERIMENTAL PHASE REMARKS

4.1 Whilst it could be argued that this is not an absolute scientific or empirical study and therefore the responses and conclusions could be questioned, it has been stated throughout the study that the objective was to solicit spontaneous responses, particularly due to the fact that much apprehension exists as well as stigmatization of any form of work done within the psychological and psychometric domains.

4.2 Given that this is a phenomenological study, based on the experiential imperatives within the situational and practical areas of ATC work, these responses and emotions were solicited in a discussion and declarative context where spontaneity and openness served as the conduit and not assessment and measurement.

4.3 It would be dangerous and a distinct deterrent, to incorporate psychometrics during the initial stage of such a Holistic Health Management System (HHMS), given the apprehension which prevails amongst ATC's and the fact that subjectivity is feared, should it be conducted internally. Therefore neutrality and objectivity is imperative and it is recommended that should this model be pursued, a consultative and discussion-based approach prevail initially. The value of such a system and the subsequent benefit to aviation safety, depends on the realization that, volunteering any information within this domain, knowing that the research, treatment and processing of such information, and the condition, would be handled with integrity, an appropriate ethical fundament and without adverse career impact.

5. TRIAL PHASE

5.1 A second phase of the research project will commence in August 2012 where a single ATSU is selected for a trial period of eight months whereby volunteers from the ATSU will participate in a minimum of assessment interviews.

5.2 Where any safety performance limiting factors are identified, the type and frequency of assistance or treatment will be agreed upon between the psychologist and the ATC. This will occur without any feedback to the employer at any level.

5.3 At four months and again at eight months, all parties concerned will participate in independent evaluations of the trial output and process.

5.4 As a way forward, results from the second phase of the research project will be evaluated and a final report considered and a potential expansion of the HHMS explored. The value of an HHMS will be reviewed for possible implementation as a service to ATC's and potentially over time as a compulsory but confidential corporate requirement to complement the existing regulatory medical licensing requirement.

6. CONCLUSION

The Conference is invited to note the research being undertaken in South Africa.

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