Impact of COVID on Aviation Worker Wellbeing (March 21, 2022)

Comparison of Survey Results – Irish Registered Airlines & All Others

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Lived Experience & Wellbeing Project
Centre for Innovative Human Systems (CIHS)
School of Psychology, Trinity College Dublin, Ireland
Overview

1. About COVID Survey
2. Findings Irish Registered V All
3. Context
   - Aviation & MH
   - Context: 2021 Survey, Health Findings (Different Roles)
4. Contact & Follow-up
About 2021 COVID Survey
About COVID Survey

- **Second COVID Survey, October & November 2021**
- **n = 1,114**, with **n = 1,010** completing PHQ9 & GAD 7
- Examine impact of the COVID 19 pandemic on (1) job and employment, (2) wellbeing and morale, (3) performance and safety behaviour, and (4) safety oversight. Also, investigated reporting culture, coping strategies, fitness to work assessment, and the supports provided by aviation companies to workers during the pandemic.

- **First COVID Survey (COVID Survey 1, July & August 2020)**
  - Anonymous online questionnaire, using Qualtrics.
  - Targeted at **ALL** aviation workers.
  - Incorporates validated instruments predicting presence of depression (PHQ 9) & anxiety (GAD 7).
  - Involvement of stakeholders in survey design
  - **Ethics (including GDPR) approval**, REC, School of Psychology, Trinity College Dublin, Ireland
Survey Topics

- COVID 19 Pandemic and impact on employment
- COVID 19 Pandemic and impact on health and wellbeing
- Talking about mental health and accessing/seeking help
- Coping Methods/Self Care & Looking for Help
- Supports and Wellbeing Culture
- Impact on performance and safety
- COVID 19 Pandemic and return to work
- COVID 19 Pandemic, remote work, work impact and change
Analysis

- Descriptive findings for subset of questions
  - All survey respondents (n=1,010)
  - Group 1: Irish Registered Airlines (n=288)
  - Group 2: All Others (all survey respondents minus group 1, n=722)

- Logistic Regression – statistically significant differences between 2 groups & odds ratio
  - Group 1: Irish Registered Airlines
  - Group 2: All Others

Irish registered
Respondents who gave the name of their company (=airline registered in Ireland)

All Others
Respondents who gave the name of their company and it is not an Irish registered airline (includes those working for non-Irish registered airlines, or those work for an ATM [Irish or otherwise] or airport operator [Irish or otherwise], and/or those who did not give the name of their company)
Analysis: Health Variables

- Depression Binary (PHQ 9)
  - Reach threshold for depression - score of 10 or over (success = 1)
  - Score of less than 10 (fail = 0)

- Anxiety Binary (GAD 7)
  - Reach threshold for anxiety - score of 10 or over (success = 1)
  - Score of less than 10 (fail = 0)

- Suicidal Ideation Binary (PHQ 9, Q9)
  - Presence of SI (success = 1)
  - No SI (fail = 0)

- Life Satisfaction & Happiness Binary
  - Score of 6.5 or over/at or above OECD average (success= 1)
  - Below 6.5/below OECD average (fail = 0)
Key Findings 2021 – Comparing Irish Registered & All others
Depression Threshold (PHQ9, ≥ 10)

<table>
<thead>
<tr>
<th>P value</th>
<th>β</th>
<th>Log Odds</th>
<th>Odds Ratio</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0569 (close to significant at 0.05)</td>
<td>Positive</td>
<td>0.29177</td>
<td>1.35</td>
<td>The odds of having major depression is 35% (1.35 - 1 *100) higher for Irish registered airlines than for all other groups</td>
</tr>
</tbody>
</table>
Anxiety Threshold (GAD 7, ≥ 10)

<table>
<thead>
<tr>
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<th>Odds Ratio</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0107</td>
<td>Positive</td>
<td>0.40867</td>
<td>1.5</td>
<td>The odds of having anxiety is 50% (1.50 - 1) *100) higher for Irish registered airlines than for all other Groups</td>
</tr>
</tbody>
</table>
## Life Satisfaction & Happiness

### Summary

The odds of having life satisfaction and happiness score which is the same or above the OECD average of 6.5) is 52% (48 - 1 * 100) lower for Irish registered airlines than for all other Groups.

### Table

<table>
<thead>
<tr>
<th>P value</th>
<th>β</th>
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<th>Odds Ratio</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.48e-07</td>
<td>Negative</td>
<td>-0.7339</td>
<td>0.48</td>
<td>The odds of having life satisfaction and happiness score which is the same or above the OECD average of 6.5) is 52% (48 - 1 * 100) lower for Irish registered airlines than for all other Groups</td>
</tr>
</tbody>
</table>
Suicidal Ideation

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>0.456 (not SS)</td>
<td>Positive</td>
<td>0.1620</td>
<td>1.175</td>
<td>The odds of meeting threshold for SI is 17.58% (1.1758624132-1 *100) higher for Irish registered airlines than for all other Groups</td>
</tr>
</tbody>
</table>
Have you ever spoken to somebody about a mental health issue you are experiencing/have experienced?

<table>
<thead>
<tr>
<th></th>
<th>P value</th>
<th>β</th>
<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2e-16</td>
<td>Positive</td>
<td>0.9639</td>
<td>2.62</td>
<td></td>
</tr>
</tbody>
</table>
Did you willingly disclose it to your employer?

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>All (n=465)</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>Irish registered airlines (n=128)</td>
<td>16%</td>
<td>84%</td>
</tr>
<tr>
<td>All others (n=337)</td>
<td>22%</td>
<td>78%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P value</th>
<th>β</th>
<th>Log Odds</th>
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</tr>
</thead>
<tbody>
<tr>
<td>0.5207 (not SS)</td>
<td>Negative</td>
<td>-0.089</td>
<td>0.9148</td>
</tr>
</tbody>
</table>
If you thought a work colleague had a serious mental health issue and might present a safety risk, would you report it?

<table>
<thead>
<tr>
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<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.469 (Not SS)</td>
<td>Positive</td>
<td>0.3696</td>
<td>1.447156</td>
</tr>
</tbody>
</table>
Use of Coping Strategies/Self Care – Since COVID

<table>
<thead>
<tr>
<th>P value</th>
<th>$\beta$</th>
<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2 (not SS)</td>
<td>Positive</td>
<td>0.4866</td>
<td>1.63</td>
</tr>
</tbody>
</table>
Has your airline provided you with any specific support to cope with stresses arising from COVID and any changes to your wellbeing?

<table>
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<tr>
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<th>β</th>
<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2 (not SS)</td>
<td>Positive</td>
<td>0.4866</td>
<td>1.6267</td>
</tr>
</tbody>
</table>
Used Company Supports

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>All (n=203)</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>Irish registered airlines (n=39)</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>All others (n=164)</td>
<td>29%</td>
<td>71%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00116</td>
<td>Negative</td>
<td>0.62940</td>
<td>0.53</td>
</tr>
</tbody>
</table>
Would Use Company Supports, If Provided

<table>
<thead>
<tr>
<th></th>
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<th>Log Odds</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>All (n=755)</td>
<td>3.916 9.01e-05</td>
<td>Positive</td>
<td>0.6980</td>
<td>2.009729</td>
</tr>
<tr>
<td>Irish registered airlines (n=240)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All others (n=515)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Have you accessed any supports outside your airline to cope with stress arising from the COVID-19 pandemic and any changes to your wellbeing?

<table>
<thead>
<tr>
<th></th>
<th>All (n=958)</th>
<th>Irish registered airlines (n=279)</th>
<th>All others (n=679)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Yes</td>
<td>73%</td>
<td>71%</td>
<td>74%</td>
</tr>
<tr>
<td>% No</td>
<td>27%</td>
<td>29%</td>
<td>26%</td>
</tr>
</tbody>
</table>

P value: 0.0708 (not SS)

β: Positive

Log Odds: 0.6746

Odds Ratio: 1.96
My Company Cares for My Wellbeing

- Agree: 12% (All), 3% (Irish Registered), 4% (All others)
- Strongly Agree: 15% (All), 3.00% (Irish Registered), 3% (All others)
- Neither Agree/Disagree: 1% (All), 1% (Irish Registered), 4% (All others)
- Disagree: 21.00% (All), 16% (Irish Registered), 23% (All others)
- Strongly Disagree: 29.00% (All), 28% (Irish Registered), 29.00% (All others)
- Total: 50% (All), 35% (Irish Registered), 30% (All others)
Changes in morale arising from the COVID-19 pandemic have negatively impacted on safety practices.

- Agree: 34% (All n=917), 31% (Irish Registered n=271), 36% (All Others n=646)
- Strongly Agree: 25% (All n=917), 24% (Irish Registered n=271), 29% (All Others n=646)
- Neither Agree/Disagree: 27% (All n=917), 25.5% (Irish Registered n=271), 25% (All Others n=646)
- Disagree: 13% (All n=917), 12.5% (Irish Registered n=271), 12.5% (All Others n=646)
- Strongly Disagree: 2% (All n=917), 2.5% (Irish Registered n=271), 2% (All Others n=646)
Context: Aviation Worker Wellbeing
## Aviation Worker Wellbeing (Pre & Since COVID)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline (Population)</th>
<th>Baseline (Aviation Workers-Pilots only thus far) – Prior to COVID</th>
<th>2020 (All) (n=1076)</th>
<th>2021 (All) (n= 1010)</th>
<th>Change/Status (During COVID)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Happiness &amp; Life Satisfaction</strong></td>
<td>6.5. (OECD, 2021).</td>
<td>-</td>
<td>6.086%</td>
<td>6.089%</td>
<td>=</td>
</tr>
<tr>
<td><strong>Depression</strong> (PHQ 9: Threshold for Moderate Depression, &gt;10)</td>
<td>4.4% (WHO)</td>
<td>12.6% (Wu et al, 2016)</td>
<td>29.6%</td>
<td>27.1%</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17.04% (Cahill et al, 2021)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Suicidal Ideation</strong></td>
<td>3.1% (Nock et al, 2018), 3.9% (CDC)</td>
<td>4.1% (Wu et al, 2016)</td>
<td>11.6%</td>
<td>11%</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.9% (Cahill et al, 2020).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anxiety</strong> (GAD 7: Threshold for Moderate Depression, &gt;10)</td>
<td>3.6% (WHO)</td>
<td>-</td>
<td>24.1%</td>
<td>23%</td>
<td>↓</td>
</tr>
</tbody>
</table>
All Aviation Workers: Life Satisfaction, Depression, Suicidal Ideation & Anxiety (2020 & 2021)
Depression & Suicidal Ideation: Pilots (Pre & Since COVID)

Pilots: Depression & Suicidal Ideation

- Harvard Study (Wu et al, 2016) - n=1,866: 12.60% Depression Threshold PHQ9 (≥10), 4.10% Suicidal Ideation
- TCD Pilots, 2018/2019 (n=821): 17.04% Depression Threshold PHQ9 (≥10), 7.90% Suicidal Ideation
- TCD, Pilots 2020 (n=729): 25.00% Depression Threshold PHQ9 (≥10), 10.70% Suicidal Ideation
- TCD Pilots 2021 (n=488): 20.70% Depression Threshold PHQ9 (≥10), 9% Suicidal Ideation
Comparison with Population Study - Depression & Anxiety Threshold, (Pre & Since COVID)

2021 Survey: Depression & Roles

PHQ9 ≥ 10 (Depression) & Aviation Roles

- All (n=1,010): 73% YES, 27% NO
- Pilots (n=488): 79% YES, 21% NO
- Cabin Crew (n=231): 59% YES, 41% NO
- Line MX/Engineering (n=67): 72% YES, 28% NO
- ATC (n=135): 76% YES, 24% NO

Legend:
- YES (PHQ9 ≥ 10)
- NO (PHQ9 <10)
2021 Survey: Anxiety & Roles

GAD7 ≥ 10 (Anxiety) & Aviation Roles

- All (n=1,010): 23% YES, 77% NO
- Pilots (n=488): 17% YES, 83% NO
- Cabin Crew (n=231): 35% YES, 65% NO
- Line MX/Engineering (n=67): 27% YES, 73% NO
- ATC (n=135): 21% YES, 79% NO

[Bar chart showing the distribution of GAD7 scores for different aviation roles]
2021 Survey: Suicidal Ideation & Roles

Suicidal Ideation (PHQ9 - Question 9) & Roles

- All (n=1,010): 89% YES, 11% NO
- Pilots (n=488): 91% YES, 9% NO
- Cabin Crew (n=231): 84% YES, 16% NO
- Line MX/Engineering (n=67): 84% YES, 16% NO
- ATC (n=135): 95% YES, 5% NO

YES (Suicidal Ideation)  NO (Suicidal Ideation)
2021 Survey: Life Satisfaction/Happiness & Roles

Life Satisfaction & Happiness & Groups
(≥ 6.5, OECD Average)

- Pilots (n=488): 50% YES, 50% NO
- Cabin Crew (n=231): 36% YES, 64% NO
- Line MX/Engineering (n=67): 54% YES, 46% NO
- ATC (n=135): 61% YES, 39% NO

YES (≥ 6.5 – OECD Average) 48%
NO (<6.5 – OECD Average) 52%
Acknowledgements

• Thanks to all the aviation workers who participated in our research so far.
• Thanks also to the following groups who have supported this survey/research.`
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