ORIGINAL ARTICLE

Self perceived health and mental health among women flight attendants

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Aims: The authors investigated associations of work related risk factors with self perceived health as less than ''good'' and psychological distress among Italian women flight attendants.
Methods: The authors conducted a cross sectional survey on health and mental health among 1955 former and current flight attendants, using a postal questionnaire.
Results: More current than former flight attendants reported self perceived health as fair to poor and psychological distress measured as a GHQ-12 score of six or more. Among current flight attendants, reporting health as fair to poor was associated with low job satisfaction (OR 1.89) and recent experiences of sexual harassment by passengers (OR 2.83). Psychological distress was associated with low job satisfaction (OR 2.38) and frequent tension with partner over childcare (OR 1.79).
Conclusions: Perceived health as fair to poor and psychological distress were greater among current flight attendants and were related to job characteristics and family difficulties. Perceived poor health has been shown in the literature to be related to mortality, high job strain, and early retirement, and psychological distress is associated with work absence. The effect of sexual harassment by passengers on perceived health of flight attendants may be relevant to other working women dealing with the public. The health effects of family/work conflicts, low job satisfaction, and sexual harassment should be explored more in depth, using qualitative as well as quantitative methods among working women in various occupations.

Although work as a flight attendant is often stressful, tiring, and disruptive, little has been written on the psychological health effects of this type of work. Two early surveys explored job strain and fatigue,[1 2] and a recent study among American women flight attendants verified that fatigue is a major problem.[3] The latter study showed that job stressors such as mental and psychological demands, imbalance between job demands and outside obligations, low supervisor support, and job dissatisfaction predicted psychological distress. The results of this study suggested that interventions aimed at reducing conflicts between work and private life, at minimising job stressors, and at increasing social support for flight attendants may enhance their wellbeing and job satisfaction.[3] A qualitative study among a sample of Italian women flight attendants highlighted the perception that the mental health of flight attendants was a problem due in part to job stressors such as isolation when on duty travel, little time or energy available to adequately fulfil roles as mothers, partners, and community members, dealing with difficult passengers, and lack of institutional support. Mutual support from colleagues was mentioned as a positive attribute of the job, as talking with colleagues about job related stresses helped them to overcome difficult moments.[4]

Work related factors that increase stress among working women include difficulties in balancing work and family, and variable or unpredictable work schedules that include long periods away from the home, relevant to women who work as flight attendants.[5] Work stress has been shown to have a number of adverse outcomes, including poor self rated health. In a national survey, Canadian women in high strain jobs reported poor/fair self rated health 1.7 times more frequently than other working women.[6] Psychological distress, particularly depression, is associated with absence from work.[7 8]

In a recent mortality study of Italian commercial flight crew, we found an increased risk for death by suicide among female flight attendants, also seen in male cockpit crew members to a lesser extent, while a lower than expected suicide risk was seen for male flight attendants.[9] Among women flight attendants, there were six observed deaths versus 1.8 expected, for a standardised mortality ratio of 3.4; all of the observed suicide deaths occurred in women between the ages of 23 and 44 years. As a result of this finding and the indications from women flight attendants that poor mental health was a concern,[4] we included questions about depression and anxiety, job satisfaction, and health status in a cross sectional health survey of women flight attendants that was under development. In this article, we report results from the survey that pertain to psychological distress and perceived poor health.

METHODS

Study population

The study population included all women flight attendants who were members of a cohort of flight personnel born in Italy and in active service with the Italian national airline, Alitalia, on 1 January 1965 or hired subsequently until 31 December 1995. The original cohort was compiled in 1998 in the context of an Italian and a European retrospective cohort mortality study; methods employed for the follow up procedures are described elsewhere.[9] An updated follow up for vital status and current residence was performed from January to September 2001, for all women flight attendant members of the original cohort. The study population for this investigation was composed of those women who were alive and for whom mailing addresses were available.

Study design

We conducted a cross sectional postal survey using a questionnaire that was totally anonymous without a linkable identification code to personal data. Respondents who wished to receive a copy of the final study report were asked to fill out a form with name and mailing address, to be mailed back in a separate envelope from the questionnaire.

The first questionnaire mailing was in November 2001, and in a second mailing, in February 2002, we re-sent the questionnaire to all participants, inviting those who had already complied to ignore the appeal.

Instrument and study variables

For the development of the mental health module of the general health questionnaire, the preliminary qualitative study including focus groups and in-depth interviews was conducted for the purpose of identifying possible work related sources of psychosocial stress among women flight attendants.[4] Based on the findings of the qualitative work, we developed a questionnaire that included questions on self reported illnesses, history of severe depression or anxiety, suicidal ideation or attempt, substance abuse, workplace sexual harassment, social support, leisure time activities, relationship with a partner, and role as mother. Women who quit working as flight attendant before retirement age were asked the reasons why they made this choice. Two indicators of current health status were used. The first measured perception of health (''In general, how is your health?'') using a standard question from the Italian national health survey conducted periodically by the Italian National Statistics Institute.[10] The responses were given in five categories: from very good to very bad. The variable was re-coded as health perceived as good (for responses good and very good) or fair to poor (for responses fair, bad, and very bad), following the approach used in the 1994/95 Canadian National Population Health Survey.[6] For the second indicator of current health status, we measured psychological distress using the 12-item General Health Questionnaire (GHQ-12). This instrument has been shown to be a valid and reliable screening instrument across countries[11] and in Italy.[12] The usual cut point indicating psychological distress, for screening purposes, is greater than two or three responses out of 12 items.[13] In the current study of women flight attendants, we chose a cut point of six or more ''positive'' responses to indicate severe current psychological distress, as was previously used in a study to assess psychological distress in Italian and French women.[14] Other indicators of current psychological distress included the use of psychoactive prescription drugs, and whether in the past month the woman had ever used alcohol to cope with feeling stressed or depressed. Past psychological distress included history of serious depression, anxiety and hospitalisation for these problems, alcoholism or drug abuse, suicidal ideation, and suicide attempts. To assess social support, we asked whether the woman had someone in whom she could confide.

Risk factors either directly or indirectly related to work included the following: whether the women were currently employed as flight attendants; year of first employment; duration of employment; if they liked their work using a five point scale from very much to not at all; whether good performance was recognised; whether childcare was ever a topic of tension with the partner; and experiences of sexual harassment at the workplace. To evaluate sexual harassment in the workplace, we modified the Sexual Experiences Questionnaire developed by Fitzgerald,[15] by combining several similar items into single questions to facilitate translation into Italian. Women were asked whether at any time during their career and in the preceding 12 months for current flight attendants, someone on the job had: (1) told suggestive or offensive stories, made remarks about her physical appearance or sexual life, showed her pornography, made offensive remarks about women generally or about her in particular; (2) insisted in propositioning her or asking repeatedly for dates, even though she had already said no several times, touched her in a way she felt uncomfortable, and (3) threatened her because she had refused a sexual proposition; used sex as a blackmail for advantages in the workplace, or tried to have a sexual intercourse or a sexual contact against her will. For each type of harassing behaviour, respondents were asked who the perpetrator was (superior/co-worker or passenger). The harassing behaviours described in the three questions were given labels that indicated severity, as defined by Fitzgerald:[15] ''gender harassment'' (Q1), ''unwanted sexual attention'' (Q2), and ''sexual coercion'' (Q3). The last two categories were combined in the analysis as there were very few cases of sexual coercion. Global indicators were constructed for having experienced at least one kind of harassing behaviour by co-workers or by passengers during career and during the past 12 months for current flight attendants.

The study was approved by the institutional bioethics review committee of the Istituto Superiore di Sanità. The questionnaire was tested by five volunteers, and modifications were made according to their suggestions.

Statistical analysis

Data were checked for internal consistency and original questionnaires were reviewed in the case of improbable replies. Descriptive analyses, bivariate comparisons, factor analysis, and multiple logistic regression analyses were performed to describe the prevalence of the main variables and to investigate associations between various risk factors and the outcomes of psychological distress and perceived fair to poor health. Independent variables included: current work status, liking work, capabilities recognised, experience with sexual harassment while working as a flight attendant, past history of mental health problems including suicidal thoughts or attempts, having children, and if so, if there was tension with the partner over childcare. An exploratory factor analysis was performed to investigate relations of work and sociodemographic factors (civil status, age, family) with psychological aspects of the respondents. Indications from this exploratory analysis were used in part to guide the development of regression models and also to validate results of the other analytic modalities. Age and social support were considered confounders and were controlled for in regression models.

Stata version 7 was used for all descriptive and regression analyses[16] and Proc Corresp in version 6.11 of SAS was used for the factor analysis.[17]

RESULTS

Response rate

Of the original 3428 women enrolled in the cohort in 1998, 62 were deceased (2%) and 330 were either lost to follow up or had emigrated outside Italy (10%). Of the remaining 3036 women for whom we had a mailing address, 1955 (64%) returned the questionnaire. There was a difference in response rate by work status: 74% for current and 48% for former flight attendants.

Demographic and work related characteristics of the study population

Table 1 describes the demographic and work characteristics of respondents by job status (currently in service or no longer). Fifty two per cent of the sample was no longer in service. Fifty per cent was currently married, without large differences by job status. Eighty two per cent reported to be currently in a steady relationship, with only minimal differences seen by job status or age group (data not shown). Among women under 40 years of age, more former than current flight attendants had children (54% *v* 45.5%, $p = 0.024$). This may be explained by the main reasons women no longer in service gave for quitting before reaching retirement: to take care of their children (55%) and because

they were away from home too much (45%). In the second part of the table, work related variables are shown pertaining to sentiments about the job and experiences of sexual harassment. Although almost all of the respondents liked their work and felt their work capacities were recognised, a positive response for both of these variables was lower among current flight attendants ($p<0.01$). Half of all women reported having experienced some type of sexual harassment by a co-worker or colleague during their career: 40% had experiences in the more severe category of unwanted sexual attention or sexual coercion. Twelve per cent of current flight attendants reported some type of harassment in the past year with 5% reporting the more serious type. Of these, four women, all aged under 40, experienced sexual coercion in the past 12 months. With respect to sexual harassment by passengers, there were very few cases of the more severe form, so for analytic purposes, a single category of sexual harassment of any severity was created. Fewer women reported having experienced harassment during the career by passengers (22.1%) compared to harassment by colleagues or superiors. Almost 4% reported having experienced passenger harassment in the previous 12 months.

Women who had been harassed by co-workers or passengers in the previous 12 months were asked in the questionnaire whether this experience had had a negative effect on their health. Nine per cent of 110 women experiencing any type of harassment by co-workers reported negative health effects (but not the four who reported sexual coercion), while 20% of 35 women reporting any type of harassment by passengers reported negative health effects.

Table 1 Demographic and work related characteristics of current and former women flight attendants (n = 1955)

	In service, n (%)	Not in service, n (%)
Demographics	938 (48.0)	1017 (52.0)
Age		
Mean in years (range)	37.1 (25–58)	50.2 (27–75)
% <40 years of age	70.0	15.6
Education beyond high school		
Age < 40 years	51.9	60.4
Age 40+ years	53.7	44.1
All ages	52.5	46.6
Marital status		
Never married	35.9	18.8
Currently married	49.6	60.1
Separated/divorced	13.7	17.3
Widowed	<1	3.3
Have children		
Age <40 y	45.4	55.4
Age 40+ y	58.0	61.2
All ages	49.2	60.3
Work related characteristics		
Job satisfaction		
Do (or did) like their work	81.3	89.0
Do (or did) feel recognised in their work	88.7	92.6
Sexual harassment at the workplace		
Ever experienced gender harassment by a superior or colleague		
During career	37.4	27.1
In past 12 months	11.7	–
Ever experienced unwanted sexual attention or sexual coercion by a superior or colleague		
During career	39.9	42.5
In past 12 months	5.4	–
Ever experienced sexual harassment of any severity by a superior or colleague		
During career	52.7	48.0
In the past 12 months	11.7	–
Ever experienced sexual harassment of any severity by a passenger		
During career	22.5	21.8
In past 12 months	3.7	–

Perceived health as fair to poor, psychological distress, and other indicators of psychosocial condition

Table 2 shows the percentage of women by age class and job status who reported their health to be only fair or poor and the percentage experiencing psychological distress, defined as having a GHQ score of six or more. There were large differences in perceived health by age and job status. Current flight attendants reported fair to poor health more often than former flight attendants, and this increased steadily with age among current workers. The prevalence levels for distress were much lower than that for perceived fair to poor health, but psychological distress was more common among current flight attendants than among their colleagues no longer working, in every age group. The group most likely to report not having a confidante or using alcohol to feelings of stress or sadness was former flight attendants, mostly aged over 40 (age data not shown). The prevalence of serious depression was fairly uniform and a history of having suicidal thoughts varied little by job status. History of suicide attempts was slightly more common among former flight attendants, but the highest subgroup prevalence was seen among current flight attendants over 40 (5%, data not shown). Use of psychoactive drugs or past history of treatment for alcoholism or drug abuse were extremely low and did not vary by age or job status (data not shown). We asked respondents to give the year that they first experienced severe depression, anxiety, and suicidal thoughts or attempts, but there were too many missing data to permit an adequate analysis of the timing with respect to work history.

Factor analysis of variable associations

From a total of 13 variables, three factors were identified that explained 30% of the variability among variables: (1) *work status*—age, job status (working as flight attendant or not), length of service and use of free time; (2) *health status* (depression in past, history of suicidal thoughts, current psychological distress, and perceived fair to poor health); and (3) *family status* (children, relationship with a significant other). The sample of 1955 former and current flight attendants was grouped into six different clusters characterised by combinations of age, job status, family, relationships, and job satisfaction. A spatial analysis was done to explore associations among the three factors by cluster type. The largest differences in health status were seen among current flight attendants with respect to age and family status. In general, the cluster composed mostly of current flight attendants of any age with children but without a steady relationship showed the poorest health while the youngest flight attendants in service who tended to be single were the best off. There were not large differences in health status among former flight attendants of different ages and family status.

The use of this type of analysis was strictly exploratory and helped us to identify age, job status, and family status as important factors associated with the adverse outcomes of interest.

Identification of risk factors for perceived fair to poor health and for psychological distress among current flight attendants

Further analyses to investigate the risk factors for perceived fair to poor health and current psychological distress were limited to currently active flight attendants, as the factor analysis indicated that the most contrasts occurred within the group of women currently in service. This was verified

Table 2 Prevalence of perceived fair to poor health, psychological distress (GHQ of six or more), and other indicators in the previous month among current and former flight attendants (n = 1955)

	In service	Not in service	p Value (χ^2)
Perceived fair to poor health by age class			
25–39	45.2%	35.9%	0.033
40–49	50.7%	47.8%	0.151
50–59	57.9%	40.3%	0.125
60+	–	38.1%	–
Total	47.0%	40.6%	0.004
Psychological distress by age class			
25–39	15.8%	10.0%	0.079
40–49	21.1%	8.9%	0.001
50–59	21.0%	15.2%	0.491
60+	–	10.5%	–
Total	17.2%	12.7%	0.004
Social support and coping			
No one to confide in	10.4%	19.6%	0.000
Use alcohol to relieve stress and sadness	10.8%	13.5%	0.068
Past mental health problems			
History of serious depression	39.1%	38.2%	0.691
Ever have suicidal thoughts	14.1%	15.3%	0.586
Ever attempt suicide	2.8%	3.5%	0.273

with a comparison of the two outcomes by job status in a simple logistic regression model, controlling for age. With respect to women who no longer worked as flight attendants, those still in service were more likely to have perceived fair to poor health (odds ratio (OR) 1.48 (95% confidence interval (CI) 1.19 to 1.84)) and were more likely to be experiencing psychological distress (OR 1.73; 95% CI 1.29 to 2.33). By choosing to concentrate on current flight attendants, we could evaluate risk factors that affect health in the present time, with the hope that findings from this study might contribute to knowledge about modifiable work factors that lead to stress among the workers, thus the importance of concentrating on women still in service. Current psychological distress or perceived poor health in former flight attendants would be less likely to be related to work done in the past, so we would not be able to demonstrate a temporal relation.

Current psychological distress among current flight attendants was strongly associated with perceived fair to poor health (OR 2.97; (95% CI 2.06 to 4.27)), controlling for age and social support. In order to determine how the risk factors of interest influenced the two outcome variables, separate logistic regression models were performed for perceived fair to poor health and current psychological distress. Independent variables considered to be associated with work included whether the woman liked her work, experiences with sexual harassment of any kind by a colleague or superior or by a passenger, and tension over childcare within the couple. There was collinearity between not liking work and not feeling recognised at work, thus not liking work was selected to indicate job satisfaction in the models. To account for non-work related risk factors that could be associated with the outcomes, a variable indicating history of having ever had a malignant tumour was included in the model for perceived poor health, and a variable of ever having had suicidal thoughts was included in the model for psychological distress.

The results of the regression models are shown in table 3. Each model controlled for age and social support (someone to confide in), as these variables were considered to be confounders in the relation between health outcome and work factors. Section A shows the results for perceived fair poor health. Low job satisfaction was associated with perceived health (OR 1.89). Sexual harassment from passengers in the preceding 12 months had a strong influence on perceived health (OR 2.83) while harassment from superiors or colleagues did not. Tension within the couple concerning childcare did not show any association. Although ever having had a tumour was an independent risk factor for perceived fair to poor health (OR 3.02, not shown in table), it was not a confounder for the work related risk factors.

Of the work related risk factors for current psychological distress (table 3), the effect of low job satisfaction was strong (OR 2.38). Sexual harassment by superiors or colleagues and by passengers showed an association (OR 1.33 and 1.64 respectively), but the confidence intervals included one. Having experienced frequent tension over childcare was positively associated with psychological distress (OR 1.79). Ever having had thoughts of suicide was strongly associated with current distress (OR 4.10, not shown in the table) but was not a confounder for the work related variables.

Table 3 Risk factors for self perception of fair to poor health and current psychological distress among current flight attendants in service: work related risk factors (n = 938)

Risk factor	OR*	95% CI
Perceived fair to poor health		
Low job satisfaction	1.89	1.34–2.67
Sexual harassment from a superior or colleague in preceding 12 months	1.00	0.66–1.53
Sexual harassment from passengers in preceding 12 months	2.83	1.30–6.18
Tension in the couple concerning childcare (compared to women without children)		
Rare	0.50	0.33–0.76
Occasional	0.79	0.57–1.10
Frequent	1.03	0.63–1.66
Current psychological distress		
Low job satisfaction	2.38	1.56–3.64
Sexual harassment from a superior or colleague in preceding 12 months	1.33	0.76–2.32
Sexual harassment from passengers in preceding 12 months	1.64	0.68–3.98
Tension in the couple concerning childcare (*compared to women without children*)		
Rare	0.47	0.24–0.95
Occasional	0.93	0.58–1.49
Frequent	1.79	1.00–3.20

*Adjusted for age and social support, as well as history of cancer for perceived fair to poor health and suicidal ideation for current psychological distress.

More than 75% of women responded that flight attendant mothers had more difficulty being good mothers compared with working women with other occupations, and this response was more common among women with perceived fair to poor health (86% *v* 73%, p<0.001) (data not shown). Given this result and the association between tension over childcare with psychological distress, we looked at whether flight attendants who were mothers had a more negative self perception of health or more psychological distress than non-mothers. Adding the variable of having children (while excluding the one on tension over childcare) to the models shown in table 3 did not alter any of the other associations and was not itself a risk factor for either perceived fair to poor health or psychological distress. In fact, having children was a protective factor for poor health (OR 0.76, 95% CI 0.58 to 0.99) (data not shown in the table).

DISCUSSION

The results of this cross sectional study of a cohort of current and former Italian women flight attendants showed that current flight attendants perceived their health as only fair or poor and reported psychological distress more frequently than former flight attendants (47.0% *v* 40.6% respectively for fair to poor health and 17.2% *v* 12.7% respectively for psychological distress). Among current flight attendants, these outcomes were related to low job satisfaction and to experiencing sexual harassment by passengers, the latter being especially strong for perceived health.

The prevalence of current psychological distress in flight attendants is not easily compared with other groups of women, as the indicator variable was created from a very conservative cut point of the GHQ and not from the more common screening cut points described in the literature.[13] The same cut point as ours was used in three earlier studies. In an investigation of postpartum depression in French and Italian mothers,[14] the prevalence of distress among mothers at one year after giving birth was 9% in Italy and 11% in France. Among working women, the prevalence of distress was 13% both among currently employed women of any category in the Trieste area (Italy)[18] and among women hospital workers in Trieste.[19] In the Trieste studies, the prevalence of using alcohol as a means of coping with stress or sadness was 10% among all employed women and 8% among hospital workers. In the current study, the prevalence of distress was 17% and the use of alcohol for relief was 11% among currently working flight attendants. The relatively high prevalence of psychological distress among Italian women flight attendants was partially corroborated by a pilot study of serious illnesses, which measured the frequency of certain diagnoses for Rome based flight personnel examined by a physician after being absent from work for at least 20 consecutive days for illness. Of 222 flight personnel examined in 2001, the most frequent diagnoses for women flight attendants' illnesses were related to mental health (49%), mostly depression and anxiety, while the prevalence of a mental health diagnosis was 22% for male flight attendants and 7% for male pilots (unpublished report, Istituto Superiore di Sanità, Rome). Depression and anxiety have been shown to be associated with absence from work among staff of four British National Health Service Trusts.[7] The British study also documented that job satisfaction was independently associated with absence from work. These results were not disaggregated by sex so it is unknown whether depression and anxiety were more common among women employees, as they were for Italian flight personnel.

The medical literature reports an association between perceived poor health and mortality,[20 21] and current suicidal ideation among general medicine practice settings, even among patients without common mental and physical disorders.[22] The latter investigation, like ours, was cross sectional and was not able to show cause and effect between poor health and associated suicidal thoughts. Perceived poor health has been shown to be associated with high job strain[6] and early retirement for mental disorders, musculoskeletal disorders, and cardiovascular diseases.[23]

Unwanted sexual attention and/or sexual coercion during the career were frequent for both former and for current flight attendants. During the 12 months preceding the survey, 11% of current flight attendants experienced harassment by colleagues and 4% by passengers. The overall prevalence of recent sexual harassment in this group of women was much lower than that found among Italian women hospital workers, where recent harassment from co-workers was 43% and harassment from patients was 29%.[24] That study may not be comparable to ours because a very detailed questionnaire for hospital workers was used specifically to measure prevalence of sexual harassment, while the flight attendant questionnaire contained fewer and more general questions on the topic. Among working flight attendants, recent co-worker harassment was not related to perceived fair to poor health and only weakly related to current psychological distress. An unexpected finding was that harassment from passengers in the previous 12 months was strongly associated with perceived fair to poor health (the strongest among the work related risk factors investigated) and was also associated to a lesser extent with psychological distress. The effect of passenger harassment on perceived health might possibly be due to the more constant nature of this type of harassment, and its effect may be compounded by other types of disagreeable passenger relationships that affect the wellbeing of flight attendants. The preliminary qualitative study[4] collected negative experiences on passenger related events, such as anger and anxiety over delays and uncooperative or verbally abusive behaviour towards the flight crew. The effect of sexual harassment by passengers on health of flight attendants may be relevant to other working women dealing with the public.

Poor job satisfaction was also a strong risk factor for perceived poor health and psychological distress. Although we were not able to identify the specific reasons that some flight attendants did not like their work and how this contributed to a perceived poor health, a starting hypothesis based on the findings from our preliminary qualitative study was that conflicts between family and work demands could be a source of stress and depression. Findings from the current study showed that having children per se was not a risk factor for distress among working flight attendants, but that among those with children, experiencing tension with the partner over childcare did contribute to distress. From the preliminary qualitative work and from responses to an open ended question at the end of the cross sectional study questionnaire, the work as flight attendant was described as ''crushing'' and ''destabilising''; many commented on mental health problems associated with the work. Better organisation of the work was indicated as important towards facilitating a more normal personal and family life.[4] This is complemented by the American flight attendant study[3] where it was suggested that addressing sources of job stress and trying to reduce them could help improve the health and job satisfaction of workers.

Potential limitations to this study include the cross sectional nature which precludes identifying causal risk factors for perceived fair to poor health or psychological distress. Another limitation is that the response rate was greater among current compared with former flight attendants, which may have affected the comparisons made between the two groups. However, the large response rate of currently working women provided a greater possibility that

Main messages

- Both perceived fair to poor health and psychological distress among working flight attendants were related to low job satisfaction and tension with partner over childcare.
- Self perceived health but not psychological distress was associated with sexual harassment at the workplace, especially from passengers.

Policy implications

- More knowledge is needed about the effect of low job satisfaction, family issues pertaining to childcare, and sexual harassment by clients on health and job productivity, both for this occupational category and for other working women.
- These topics should be explored in more depth, using a mix of methodologies to better understand the dimension of the phenomenon and its implications on health and work productivity.

the high prevalence of perceived poor health and distress and their association with low job satisfaction, family conflicts, and experiences with sexual harassment reflect the realities of this type of work.

We have several suggestions for further research that might help to identify which particular aspects about the job as flight attendant have deleterious effects on health, and whether the same risk factors may affect the health of women working in other occupations. Comparative studies across occupations would be useful. These studies should include qualitative research, which may be the best way to uncover specific aspects of work that cause health problems. Additional quantitative surveys could employ a range of psychometric tests, such as the job content questionnaire, used in the Canadian National Population Survey,[6] or scales to measure job control and job dissatisfaction and to identify job stressors, as were employed in a study of American flight attendants.[3] The strong finding that passenger harassment is associated with perceived poor health in working flight attendants must be considered suggestive and could be the basis for further study on relations with the public and their effect on health, both among flight attendants and other working women.

As a follow up to this study, we sent a summary of the major findings of the health survey to the respondents who had requested a copy. We also informed the unions, the medical service, and personnel office of the company about the findings. We are grateful to the women who took the time to complete and send back the questionnaire, and we hope that the information provided from this investigation will be useful to the workers themselves to improve work conditions where improvements can reasonably be made, as well as stimulating research to implement and evaluate interventions that address psychological aspects of this type of work.

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