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Short Report

What is the role of gender in perceived coercion during psychiatric admission?

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Abstract

Objectives: This paper explores factors linking gender with increased perceived coercion, perceived negative pressures and procedural injustice during psychiatric admission.

Methods: We used validated tools to perform detailed assessments of 107 adult psychiatry inpatients admitted to acute psychiatry admission units at two general hospitals in Dublin, Ireland, between September 2017 and February 2020.

Results: Among female inpatients ($n = 48$), perceived coercion on admission was associated with younger age and involuntary status; perceived negative pressures were associated with younger age, involuntary status, seclusion, and positive symptoms of schizophrenia; and procedural injustice was associated with younger age, involuntary status, fewer negative symptoms of schizophrenia, and cognitive impairment. Among females, restraint was not associated with perceived coercion on admission, perceived negative pressures, procedural injustice, or negative affective reactions to hospitalisation; seclusion was associated with negative pressures only. Among male inpatients ($n = 59$), not being born in Ireland appeared more relevant than age, and neither restraint nor seclusion were associated with perceived coercion on admission, perceived negative pressures, procedural injustice, or negative affective reactions to hospitalisation.

Conclusions: Factors other than formal coercive practices are primarily linked with perceived coercion. Among female inpatients, these include younger age, involuntary status, and positive symptoms. Among males, not being born in Ireland appears more relevant than age. Further research is needed on these correlations, along with gender-aware interventions to minimise coercive practices and their consequences among all patients.

Keywords: Perceived coercion; gender; seclusion; restraint; involuntary admission

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Introduction

In 2021, the Mental Health Commission (MHC), which is based in Ireland, reported on the use of restrictive practices in approved centres (psychiatric inpatient units) during 2020 (Mental Health Commission, 2021). The MHC (2009a) defines 'seclusion' as 'the placing or leaving of a person in any room alone, at any time, day or night, with the exit door locked or fastened or held in such a way as to prevent the person from leaving' (p.17). In 2020, 699 patients were placed in seclusion a total of 1840 times; majorities were male in 2020 (62%) and 2019 (67%) (MHC, 2021).

'Physical restraint' is 'the use of physical force (by one or more persons) for the purpose of preventing the free movement of a resident's [patient's] body when he or she poses an immediate threat of serious harm to self or others' (MHC, 2009b; p.14). In 2020, 1211 patients experienced physical restraint; slight majorities were male in 2020 (51.7%) and 2019 (53.9%) (MHC, 2021).

In apparent contrast with the MHC findings associating formal coercive practices with male gender, our research group previously showed that female gender is associated with increased perceived coercion on admission and perceived procedural injustice (O'Callaghan *et al.* 2021). It is important to clarify this relationship between gender and perceived coercion owing to reported associations between perceived coercion and increased suicide attempts post-discharge (Jordan & Mcniel, 2020), in addition to reduced therapeutic alliance (Katsakou *et al.* 2010; Sheehan and Burns 2011) and patient perceptions of treatment as dehumanising (Newton-Howes & Mullen, 2011).

In light of the differences between our initial published findings and the MHC findings, we sought to further explore our original dataset with particular focus on the gender differences in this area, with a view to informing interventions.

Method

Design

We conducted a quantitative study using semi-structured interviews to determine the relationships between perceived coercion

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during inpatient psychiatric admission and formal coercive practices, among other factors (O'Callaghan *et al.* 2021).

Setting and sampling

This study was conducted in Tallaght University Hospital and Connolly Hospital, Dublin between September 2017 and February 2020. We included voluntary and involuntary inpatients aged 18 years or over who were admitted to these units during the study period, proficient in English, and possessed capacity to consent.

Demographic and clinical details

We recorded demographic information and other relevant features of each admission, including seclusion, physical restraint, and clinical diagnoses (World Health Organisation, 1992). We assessed patients using the Scales for Assessment of Positive and Negative Symptoms (SAPS and SANS) (Andreasen, 1983, 1984), Mini Mental State Examination (MMSE) (Folstein *et al.* 1975), and Global Assessment of Functioning (GAF) (American Psychiatric Association, 1994). We used the MacArthur Admission Experience Survey (AES) (Short Form) to measure perceived coercion, negative pressures, procedural injustice, and affective reactions to hospitalisation on admission (Gardner *et al.* 1993).

Analysis

Data were anonymised, encrypted, stored, and analysed using IBM SPSS Statistics (Version 26). Multivariable analyses were conducted of correlates of perceived coercion on admission, negative pressures, procedural injustice, negative affective reactions to psychiatric hospitalisation, and AES total score, stratified by gender. Our statistical modelling technique included corrections for multiple testing in each model. We also tested each model for multicollinearity, which is when two or more variables are so closely related to each other that the model cannot reliably distinguish the independent effects of each. To test for this, we calculated a 'tolerance value' for each independent variable; tolerance values below 0.10 indicate significant problems with multicollinearity (Katz, 1999). We calculated the r-squared value for each model to determine the predictive power of each model.

Results

Demographic details

Our sample included 107 patients of whom 48 (44%) were female; no patients reported nonbinary gender identities. Twenty nine patients (27.1%) were involuntary for part or all of their admission. Patients were only recognised as involuntary if their involuntary admission orders were completed following admission, meaning those who were brought in on Mental Health Act forms but agreed to stay voluntarily were not included as involuntary patients in this study. Length of hospital stay at time of assessment was non-normally distributed (skewed to the right) with a median of 11 days (interquartile range [IQR]: 5–23). Mean length of stay at time of assessment for voluntary patients was 20.15 days (standard deviation [SD]: 32.43). and involuntary patients was 51.48 days (standard deviation [SD]: 90.04). Eighty-nine patients (83.2%) were born in Ireland and 79 (73.8%) were unemployed. Mean age was 43.3 years (standard deviation [SD]: 15.8). Affective disorders were the most common diagnoses ($n = 50$; 46.7%) followed by schizophrenia and related disorders ($n = 29$; 27.1%), personality and behavioural disorders ($n = 12$; 11.2%), substance use disorders ($n = 9$; 8.4%), and anxiety disorders ($n = 7$; 6.5%).

At time of assessment, nine patients (8.4%) had experienced one or more episodes of seclusion; 10 (9.3%) had experienced one or more episodes of physical restraint; 10 (9.3%) were nursed in 'high dependency units' (psychiatric intensive care), and the remainder ($n = 97$; 90.7%) were in general psychiatric wards.

Clinical variables

SAPS total score was non-normally distributed (skewed to the right) with a median of 8.0 (IQR: 1.0–17.0); 88 patients (82.2%) scored at least 1. Total SAPS score can range between 0 and 150. SANS total score was non-normally distributed (skewed to the right) with a median of 7.0 (IQR: 1.0–15.0); 84 patients (78.5%) scored at least 1. Total SANS score can range between 0 and 100. On both SAPS and SANS scales, the more symptoms the patient has, the higher their score. MMSE score was non-normally distributed (skewed to the left) with a median of 28 (IQR: 27–30); eight patients (7.5%) scored 23 or lower, which is indicative of cognitive impairment with moderate-to-high levels of reliability. Mean GAF score was 46.68 (SD: 14.47; range: 20–80). This scale ranges from 1 to 100, with higher scores indicating better functioning.

Perceived coercion on admission, negative pressures, procedural injustice, and negative affective reactions to hospitalisation

See Tables 1 and 2 for full results of multivariable analyses of correlates of the AES and all subscales. Beta coefficients are included, and these compare the strength of each individual independent variable to the dependent variable, with the higher absolute value indicating the stronger effect.

Among female patients, higher AES total score was associated with younger age ($p = 0.005$) and involuntary status ($p = 0.010$) (Table 1). The strongest effect was noted with involuntary status ($\beta = 7.465$). Statistically significant associations were also found within the AES subscales. Perceived coercion was associated with younger age and involuntary status ($p = 0.012$ in both), and the stronger effect was noted with involuntary status ($\beta = 2.442$). Perceived negative pressures were associated with positive symptoms of schizophrenia ($p < 0.001$), younger age ($p = 0.002$), involuntary status ($p = 0.005$), and not experiencing seclusion ($p = 0.041$), and the strongest effect was noted with not experiencing seclusion ($\beta = -4.310$). Procedural injustice was associated with younger age ($p = 0.018$), involuntary status ($p = 0.010$), fewer negative symptoms ($p = 0.027$), and cognitive impairment ($p = 0.033$), and the strongest effect was noted with involuntary status ($\beta = 1.597$). There were no statistically significant associations within the negative affective reactions to hospitalisation subscale.

In the male patient group, AES total score was associated with not being born in Ireland ($p = 0.006$) and involuntary status ($p = 0.001$) (Table 2). The strongest effect was noted with involuntary status ($\beta = 5.436$). Statistically significant associations were also found within the AES subscales. Perceived coercion was associated with involuntary status ($p < 0.001$) and not being born in Ireland ($p = 0.018$), and the strongest effect was noted with involuntary status ($\beta = 2.256$). Perceived negative pressures were associated with involuntary status ($p < 0.001$), not being born in Ireland ($p = 0.021$), longer stay ($p = 0.018$), and reduced functioning ($p = 0.022$), and the strongest effect was noted with involuntary

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Table 1. Multivariable analyses of correlates of perceived coercion on admission, negative pressures on admission, procedural injustice on admission, negative affective reactions to psychiatric hospitalisation on admission and total score on the macArthur admission experience survey (AES) on admission in **females**

	Perceived coercion on admission		Negative pressures on admission		Procedural injustice on admission		Negative affective reactions to hospitalisation on admission		Total score on the MacArthur Admission Experience Survey (AES) on admission[1]	
Variable	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Age	**−0.068**	**0.012**	**−0.073**	**0.002**	**−0.041**	**0.018**	−0.046	0.070	**−0.228**	**0.005**
Marital status	0.023	0.946	0.345	0.247	0.109	0.622	−0.004	0.991	0.474	0.644
Place of birth	−2.049	0.115	−2.074	0.063	−1.500	0.071	**−1.723**	0.163	−7.346	0.058
Employment status	−0.504	0.445	−0.570	0.313	−0.176	0.675	−0.336	0.594	−1.586	0.417
Admission status[2]	**2.442**	**0.012**	**2.372**	**0.005**	**1.597**	**0.010**	1.054	0.239	**7.465**	**0.010**
Length of stay at time of assessment	0.004	0.547	0.000	0.948	0.001	0.731	−0.009	0.143	−0.004	0.855
Diagnosis	0.013	0.966	−0.152	0.551	−0.135	0.478	−0.039	0.890	−0.313	0.722
Experienced seclusion (yes/no)	−0.667	0.781	**−4.310**	**0.041**	−0.265	0.86	1.335	0.561	−3.906	0.583
Experienced restraint (yes/no)	−2.404	0.150	0.424	0.762	−1.143	0.279	−0.836	0.595	−3.959	0.417
Nursed in a 'high dependency unit'	0.120	0.944	0.693	0.634	−0.483	0.657	−0.048	0.977	0.282	0.955
Positive symptom score[3]	0.040	0.178	**0.098**	**<0.001**	0.030	0.116	−0.10	0.729	0.159	0.075
Negative symptom score[4]	−0.032	0.321	−0.003	0.232	**−0.047**	**0.027**	0.027	0.380	−0.084	0.372
Cognition[5]	−0.181	0.171	−0.101	0.365	**−0.183**	**0.033**	0.000	0.998	−0.466	0.232
Level of functioning[6]	−0.031	0.285	−0.003	0.900	−0.015	0.409	−0.016	0.572	−0.065	0.448
Constant	12.016	**0.026**	7.611	0.093	9.359	**0.007**	7.412	0.141	36.398	**0.023**
r^2	41.1%		59.9%		43.6%		38.2%		44.2%	
Model *p*	0.117		0.001		0.077		0.183		0.069	

[1]The total score on the MacArthur Admission Experience Survey (AES) on admission was calculated by adding scores of each of the four subscales (perceived coercion on admission, negative pressures on admission, procedural injustice on admission and negative affective reactions to psychiatric hospitalisation on admission).
[2]Admission status refers to whether or not the patient had involuntary status under Ireland's Mental Health Act, 2001 during their admission.
[3]Measured using the Scale for Assessment of Positive Symptoms (SAPS) (Andreasen, 1984).
[4]Measured using the Scale for Assessment of Negative Symptoms (SANS) (Andreasen, 1983).
[5]Measured using the Mini Mental State Examination (MMSE) (Folstein *et al.* 1975).
[6]Measured using the Global Assessment of Functioning (GAF) (American Psychiatric Association, 1994).

status ($\beta = 2.067$). Procedural injustice was associated with fewer negative symptoms only ($p = 0.042$) ($\beta = -0.038$). Negative affective reactions to hospitalisation were associated with not being born in Ireland ($p = 0.001$), being unemployed ($p = 0.026$), and increased positive symptoms ($p = 0.041$), and the strongest effect was noted with not being born in Ireland ($\beta = -2.234$).

All tolerance values were greater than 0.10, indicating no problems with multicollinearity. The r-squared values indicate that these models generally account for between one third and a half of the variance between individuals in these scales and subscales (Tables 1 and 2).

Discussion

Summary of results

This paper explores the factors that link female gender with perceived coercion and procedural injustice during psychiatric admission. Reduced rates of formal coercive practices such as seclusion and restraint are reported among females. Our analysis examined female and male groups separately in order to clarify the relationship between gender and perceived coercion. While involuntary status was relevant to both groups, we found differences in factors between both groups, with younger age being more relevant to the female group and not being born in Ireland more relevant to the male group. Overall, we found that factors other than formal coercive practices such as seclusion and restraint are primarily linked with perceived coercion in both groups.

Comparison with previous studies

Several studies have identified associations between female gender and increased perceived coercion (Fiorillo *et al.* 2012; Raveesh *et al.* 2016; Jordan & Mcniel, 2020) and some differ from our study in identifying greater exposure to formal coercive practices, outside of an Irish context (Odawara *et al.* 2005; Beghi *et al.* 2013; Gowda *et al.* 2018). Proposed reasons to date have included a possible increased willingness among females to report feelings of vulnerability and psychological discomfort (Rhodes *et al.* 2002) or a socially influenced, gender-based characteristic of greater emotional responsiveness among females (Georgieva *et al.* 2012). Our findings indicated that formal coercive practices played a lesser role than suggested in other studies. We report an association with younger age in female patients which had not been identified as a statistically significant factor in our previous study which did not analyse results by gender (O'Callaghan *et al.* 2021). Other studies vary in their associations with age, with one study that did not stratify by gender identifying greater age as a risk factor for increased perceived coercion (Bindman *et al.* 2005). Another study

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Table 2. Multivariable analyses of correlates of perceived coercion on admission, negative pressures on admission, procedural injustice on admission, negative affective reactions to psychiatric hospitalisation on admission and total score on the macArthur admission experience survey (AES) on admission in **males**

	Perceived coercion on admission		Negative pressures on admission		Procedural injustice on admission		Negative affective reactions to hospitalisation on admission		Total score on the MacArthur Admission Experience Survey (AES) on admission[1]	
Variable	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Age	0.015	0.374	0.026	0.462	−0.001	0.918	−0.006	0.754	0.033	0.508
Marital status	−0.105	0.726	−0.449	0.164	−0.263	0.223	−0.677	0.056	−1.493	0.107
Place of birth	**−1.391**	**0.018**	**−1.443**	**0.021**	0.046	0.911	**−2.234**	**0.001**	**−5.022**	**0.006**
Employment status	−0.579	0.253	−0.570	0.291	−0.305	0.398	**−1.340**	**0.026**	−2.794	0.074
Admission status[2]	**2.256**	**<0.001**	**2.067**	**<0.001**	0.496	0.185	0.616	0.309	**5.436**	**0.001**
Length of stay at time of assessment	0.007	0.059	**0.010**	**0.018**	0.003	0.243	0.002	0.705	0.022	0.062
Diagnosis	0.047	0.832	−0.023	0.924	−0.106	0.507	0.516	0.051	0.435	0.522
Experienced seclusion (yes/no)	0.378	0.811	0.555	0.742	**2.023**	0.079	−1.647	0.373	1.308	0.787
Experienced restraint (yes/no)	1.488	0.426	1.760	0.378	−1.899	0.158	**2.298**	0.292	0.645	0.522
Nursed in a 'high dependency unit'	0.453	0.605	0.0198	0.832	−0.220	0.725	0.183	0.857	0.615	0.818
Positive symptom score[3]	0.028	0.175	0.017	0.430	0.018	0.221	**0.050**	**0.041**	0.113	0.075
Negative symptom score[4]	0.014	0.587	−0.014	0.604	**−0.038**	**0.042**	−0.015	0.608	−0.053	0.493
Cognition[5]	−0.030	0.731	5.929E-5	0.999	−0.088	0.156	−0.080	0.426	−0.198	0.453
Level of functioning[6]	−0.011	0.549	**−0.044**	**0.022**	−0.024	0.064	0.021	0.300	−0.057	0.290
Constant	1.485	0.658	2.638	0.462	5.111	**0.037**	7.765	0.051	16.998	0.101
r^2	51.9%		53.7%		35.5%		35.5%		44.3%	
Model *p*	<0.001		<0.001		0.084		0.084		0.010	

[1]The total score on the MacArthur Admission Experience Survey (AES) on admission was calculated by adding scores of each of the four subscales (perceived coercion on admission, negative pressures on admission, procedural injustice on admission and negative affective reactions to psychiatric hospitalisation on admission).
[2]Admission status refers to whether or not the patient had involuntary status under Ireland's Mental Health Act, 2001 during their admission.
[3]Measured using the Scale for Assessment of Positive Symptoms (SAPS) (Andreasen, 1984).
[4]Measured using the Scale for Assessment of Negative Symptoms (SANS) (Andreasen, 1983).
[5]Measured using the Mini Mental State Examination (MMSE) (Folstein *et al.* 1975).
[6]Measured using the Global Assessment of Functioning (GAF) (American Psychiatric Association, 1994).

of patients being treated for anorexia nervosa found those under the age of 18 reported more perceived coercion than adult patients and, of note, 98% of participants in that study were female (Guarda *et al.* 2007).

Also of note, we found that, for males, not being born in Ireland appears more relevant than age to perceived coercion. This is an important finding, particularly with an increasing immigrant population in Ireland. The Central Statistics Office estimated non-Irish nationals to make up 12.7% of the Irish population in 2019 (Central Statistics Office, 2019), and provisional figures from the 2022 census show the current estimate for net migration between 2016 and 2022 is 190,333 (Central Statistics Office, 2022). Migrants are noted to experience a greater level of psychological distress than native populations (Wittig *et al.* 2008). While this is not the core focus of this paper, it highlights an important area for further research.

Some work has been done on addressing perceived coercion in psychiatric care, including post-coercion review sessions, which can have significant impact, especially among female patients (Wullschleger *et al.* 2021). Further work is required to identify, implement, and evaluate any further gender-aware interventions that might play a role in these settings, with particular reference to nonbinary gender identities.

Strengths and Limitations

Strengths of this study include examination of a broad range of outcome variables, use of validated, reliable tools, and multivariable statistical analyses. Limitations include the fact that patients were interviewed at different times during their hospital admissions (although this was controlled for in the multivariable analyses); potential bias due to purposive sampling (rather than consecutive patients); and the exclusion of patients who lacked capacity to consent to research. It was not possible to assess all patients at the same time during their hospital stays, owing to differing lengths of stay, variable courses of illness, and unpredictable discharge dates. In order to control for different lengths of hospital stay at time of assessment, therefore, multivariable models included length of hospital stay at time of assessment as an independent variable (see Tables 1 and 2).

Conclusions

While the MHC reports that male inpatients account for most episodes of seclusion and restraint, we previously found increased perceived coercion on admission and procedural injustice among females (O'Callaghan *et al.* 2021). The analysis in the present paper confirms that factors other than formal coercive practices are

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primarily linked with perceived coercion among females and males. Among female inpatients, these include younger age, involuntary status, and positive symptoms. Among males, not being born in Ireland appears more relevant than age. Further research is needed to better understand these correlations, not least because the r-squared values in our study indicate that these models generally account for between one third and a half of the variance between individuals in these scales and subscales; other factors are also likely to be relevant (e.g. decision-making capacity, substance misuse, etc.).

There is a need for gender-aware interventions to minimise perceived coercion and its consequent impacts on care among all patients. Research of interventions to date has focussed on reduced formal coercive measures such as seclusion and restraint as their primary outcome measures, and include interventions in the domains of organization, staff training, risk assessment, environment, psychotherapy, debriefings, and advance directives (Hirsch & Steinert, 2019). While these interventions may also be beneficial in reducing *perceived* coercion, it is essential that data on perceived coercion is gathered as part of future studies in this area.

Conflict of interest. The authors state that they have no conflict of interest.

Ethical standards. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008. The study protocol was approved by the ethics committee of each participating institution.

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