

Whittington, R., Bowers, L., Nolan, P., Simpson, A. & Neil, L. (2009). Approval Ratings of Inpatient Coercive Interventions in a National Sample of Mental Health Service Users and Staff in England. *Psychiatric Services*, 60(6), pp. 792-798. doi: 10.1176/ps.2009.60.6.792



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3 **APPROVAL FOR DIFFERENT TYPES OF COERCIVE INTERVENTIONS**  
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6 **AMONGST A NATIONAL SAMPLE OF**  
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8 **MENTAL HEALTH SERVICE USERS AND STAFF IN ENGLAND**  
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14 Running head: Attitudes Toward Coercive Interventions  
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19

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## ABSTRACT

**Objective:** To ascertain the degree of approval amongst service users and staff for various coercive measures commonly used in acute mental health care.

**Methods:** A cross-sectional design was adopted. The Attitudes to Containment Measures Questionnaire (ACMQ) was completed by 1,361 service users and 1,226 staff in acute care mental health services from three regions of England. This provided evaluation of eleven coercive measures (e.g. seclusion) on six dimensions of approval (e.g. indignity, safety) in a large national sample. Comparisons between groups were tested using independent samples t-tests,  $\chi^2$  or Spearman correlations.

**Results:** Both service users and staff disapproved strongly of mechanical restraint and expressed a relative preference for compulsory intramuscular medication and seclusion. Male staff, older service users and staff who had been involved in implementing coercion expressed greater approval of coercive measures.

**Conclusion:** Mechanical restraint remains highly objectionable to staff and service users in English mental health services despite its widespread acceptance elsewhere in the world.

Keywords: violence, coercion, attitude of health personnel, physical restraint, intramuscular injection.

## Introduction

The aim of this study was to systematically ascertain the views of English service users and staff about the use of coercive measures in acute mental health care. It is widely accepted that effective mental health care sometimes includes the deployment of coercive measures such as seclusion and restraint by staff to contain dangerous or severely disruptive behaviour by a service user. Extensive efforts have been made in Europe and America over the past decade to assess rates of coercive measures systematically [1-3] and to reduce them [4]. D’Orio et al. [5], for example, report a 39% reduction in coercion following introduction of a package which included enhanced access to expertise during emergency situations. Involvement in the use of these measures or witnessing their use can be highly distressing for both service users and staff [6-8] and few are likely to remain neutral about them. Attitudes toward different types of coercive measure are likely to vary between and within service user and staff groups but little is known about the preferences of staff and service users when comparing different measures. Such preferences are likely to have some influence on the decision to deploy them and thus are worthy of the systematic investigation reported in this paper. Much research on subjective perceptions in this area has been qualitative and focused on emotional responses to the experience of coercion [9]. Qualitative studies conducted beyond the UK and American setting indicate that many of the responses of service users and staff are recognisable across cultures e.g. fear and anxiety [10, 11]. More structured approaches are increasingly being developed to survey staff and service user attitudes [12, 13] and have revealed intriguing patterns which may vary across cultures, e.g. some positive evaluations of

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3 coercive measures amongst Chinese service users [14] However these instruments do  
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5 not enable the direct comparison between different types of coercive measure which  
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7 was the aim of this study. Two American studies do allow such comparisons and  
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9 found that staff in high secure care [15] and neuropsychiatric care [16] ranked the  
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11 following measures in the same order of preference: medication, seclusion and  
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13 mechanical restraint. No distinction was drawn in these studies however between  
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15 consensual PRN medication and coerced IM medication when these are clearly two  
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17 very different scenarios. A Canadian study [17] compared staff and service user  
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19 preferences in a small, purposive sample and found a number of patterns e.g. that  
20  
21 service users approved of PRN medication. much more than staff. However, the  
22  
23 questionnaire used presented the methods hierarchically, making interpretation of  
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25 relative preferences difficult. Bowers et al. [18] report the development of a new tool,  
26  
27 the Attitudes to Containment Measures Questionnaire (ACMQ) which enables direct  
28  
29 comparison between coercive measures. Coerced PRN medication is explicitly  
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31 identified to distinguish it from consensual medication in this instrument. Preliminary  
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33 data from student nurses in four countries suggest that English students had greater  
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35 reservations about coercive measures than their counterparts in the Netherlands and  
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37 Finland [19].  
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48 The aim of the study reported below was to move beyond previous research by  
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50 eliciting service user and staff preferences and approval for various coercive measures  
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52 when they were directly compared with each other using the ACMQ in a large  
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54 national sample. Whilst this country, England, markedly differs from North America  
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56 and the rest of continental Europe in at least one respect (intolerance of mechanical  
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restraint [3]) the aim was ultimately to provide a benchmark against which other national samples could be compared. A cross-sectional survey design was adopted.

For Review Only

## Methods

### Setting and sample

Staff and service user respondents were drawn from the 136 acute wards participating in the City 128 study [20]. The intention was to recruit 10 service users and all staff from each ward. Potential service user participants on each ward were identified by random sampling but, once identified, only those judged by staff as able to grant informed consent and participate were approached. After complete description of the study to the participants, written informed consent was obtained. Most service users were interviewed by a research assistant to aid completion of the ACMQ instrument (see below). All staff on each ward were sent a copy of the ACMQ instrument and those who completed it, returned it anonymously through an internal mailbox. The final sample consisted of 1,226 staff and 1,361 service users (see Table 1). 95% of staff respondents were nurses (68%) or health care assistants (27%) with the rest being from other occupations (occupational therapist, psychiatrist, psychologist, social worker). Data were collected in 2004 and 2005.

Insert Table 1 about here

### Measure

The Attitudes to Containment Measures Questionnaire (ACMQ) [18] lists 11 coercive measures used widely either in the UK (PRN medication, compulsory IM medication; physical restraint; intermittent observation; constant observation; time out; PICU

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3 transfer; locked door seclusion; open area seclusion) or elsewhere in Europe  
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5 (mechanical restraint or net bed, defined as a lockable metal frame with side netting  
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7 bolted to a bed [3, 21]). Each listed coercive measure is accompanied by a short  
8  
9 description and a visual illustration and then six dimensions of approval are assessed:  
10  
11 *effectiveness, acceptability, respectfulness, safety for service users, safety for staff,*  
12  
13 *willingness to undergo (service users) or use (staff).* The respondent is asked to  
14  
15 indicate their degree of approval on a 5-point Likert scale (strongly agree =5, to  
16  
17 strongly disagree=1) and then to indicate (yes/no) whether they have been involved in  
18  
19 implementing the measure (staff) or subjected to it (service users). Responses were  
20  
21 summed across approval ratings for each coercive measure and a high score indicates  
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23 approval as opposed to disapproval. Comparisons between groups were tested using  
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25 independent samples t-tests,  $\chi^2$  or Spearman correlations.  
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### 34 Ethical review

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36 The study was approved by the National Health Service North West Multicentre  
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38 Research Ethics Committee.  
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## Results

For those coercive methods in use in the UK, service users were asked whether they had been subjected to them and staff were asked whether they had used them. A summary of responses to these items is presented in Table 2. As might be expected, staff have greater experience of coercive methods, as they have a constant presence in the acute ward, whereas individual service users pass through for relatively short time spans.

Insert Table 2 about here

Figure 1 plots the sum total approval score for each group for comparison purposes. It can be seen that the service user group disapproved most strongly of net beds, mechanical restraint and IM medication and the staff group disapproved most strongly of net beds, mechanical restraint and open area seclusion. The service user group approved most strongly of intermittent observation, time out and PRN medication; and the staff group approved most strongly of PICU transfer, PRN medication and observation. A score of 18 in Figure 1 was adopted as a cut off to distinguish between ‘absolute’ approval and disapproval as this value lay at the midpoint of the modified likert scale. Using this cut off, both service users and staff disapproved of net beds and mechanical restraint and service users in addition disapproved of IM medication.

Insert Figure 1 about here

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3 Tables 3 and 4 present the mean (sd) scores for service users and staff on each of the  
4 six dimensions of approval with regard to the eleven coercive measures. Staff  
5 approved of coercive measures overall more highly on each dimension of approval  
6 though the dimension ‘safe for staff’ was endorsed at roughly equal levels. Most  
7 aspects of net beds were strongly disapproved of by service users and staff and it is  
8 noteworthy that there was a relatively strong endorsement of the item “I would not be  
9 prepared to undergo mechanical restraint” by the service user group.  
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22 Insert Tables 3 and 4 here  
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### 27 Variations by gender

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31 *Service users:* Approval ratings by male service users were consistently significantly  
32 higher for manual restraint ( $t = 2.26$ ,  $df = 1339$ ,  $p = 0.024$ ), seclusion ( $t = 2.42$ ,  $df =$   
33  $1330$ ,  $p = 0.016$ ), mechanical restraint ( $t = 3.16$ ,  $df = 1318$ ,  $p = 0.002$ ) and net beds ( $t$   
34  $= 3.79$ ,  $df = 1308$ ,  $p < 0.001$ ) compared to female service users. Female service users  
35 were more likely to have had experience of being subject to intermittent observation  
36 ( $\chi^2 = 10.81$ ,  $df = 1$ ,  $p = 0.001$ ), and constant observation ( $\chi^2 = 4.81$ ,  $df = 1$ ,  $p = 0.028$ ),  
37 whereas male service users were more likely to have had experience of being subject  
38 to seclusion ( $\chi^2 = 5.48$ ,  $df = 1$ ,  $p = 0.019$ ), and psychiatric intensive care ( $\chi^2 = 21.21$ ,  $df$   
39  $= 1$ ,  $p < 0.001$ ).  
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54 *Staff:* There were also multiple differences within the staff group with male staff  
55 consistently approving more highly of every coercive method (PRN medication,  $t =$   
56  $2.14$ ,  $df = 1153$ ,  $p = 0.03$ ; manual restraint,  $t = 3.01$ ,  $df = 1159$ ,  $p = 0.003$ ; intermittent  
57 observation,  $t = 2.5$ ,  $df = 1157$ ,  $p = 0.013$ ; seclusion,  $t = 3.97$ ,  $df = 10791$ ,  $p < 0.001$ ;  
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3 mechanical restraint,  $t = 4.14$ ,  $df = 1080$ ,  $p < 0.001$ ; constant observation,  $t = 2.08$ ,  $df$   
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mechanical restraint,  $t = 4.14$ ,  $df = 1080$ ,  $p < 0.001$ ; constant observation,  $t = 2.08$ ,  $df$   
= 1150,  $p = 0.038$ ; net beds,  $t = 2.6$ ,  $df = 1033$ ,  $p = 0.009$ ; open area seclusion,  $t =$   
3.05,  $df = 1077$ ,  $p = 0.002$ ) apart from time out, psychiatric intensive care and IM  
medication. Male staff were more likely to have had experience of using seclusion ( $\chi^2$   
= 9.17,  $df = 1$ ,  $p = 0.002$ ).

### Variations by age

*Service users:* Most items showed a positive relationship to age, with older service  
users expressing greater approval of many coercive methods (manual restraint  $r =$   
0.123,  $n = 1349$ ,  $p < 0.001$ ; seclusion  $r = 0.083$ ,  $n = 1340$ ,  $p = 0.002$ ; IM medication,  
 $r = 0.127$ ,  $n = 1338$ ,  $p = 0.077$ ; PICU,  $r = 0.072$ ,  $n = 1333$ ,  $p = 0.008$ ; constant  
observation,  $r = 0.105$ ,  $n = 1329$ ,  $p < 0.001$ ). Younger service users were more likely  
to have been subject to physical restraint ( $\chi^2 = 11.67$ ,  $df = 5$ ,  $p = 0.04$ ), time out ( $\chi^2 =$   
20.44,  $df = 5$ ,  $p = 0.001$ ), and constant observation ( $\chi^2 = 11.67$ ,  $df = 5$ ,  $p = 0.04$ ).

*Staff:* Younger staff were significantly more approving of mechanical restraint ( $r = -$   
0.175,  $n = 1102$ ,  $p < 0.001$ ) and net beds ( $r = -0.117$ ,  $n = 1057$ ,  $p < 0.001$ ). There were  
relationships between staff age and their experience of having used some coercive  
measures (PRN medication,  $\chi^2 = 18.8$ ,  $df = 5$ ,  $p = 0.002$ ; seclusion,  $\chi^2 = 33.11$ ,  $df = 5$ ,  
 $p < 0.001$ ; IM medication,  $\chi^2 = 16.09$ ,  $df = 5$ ,  $p = 0.007$ ), but these relationships were  
not straightforward or in each case the same. For some measures younger and older  
staff had greater experience but for other measures middle aged staff (30-49 years of  
age) had greater experience. For staff, therefore, there is probably an interaction  
between age, duration of time working in psychiatry, and cohort affecting approval of  
coercive methods.

## Variations according to personal experience

*Service users:* With regard to overall approval score, service users who had been subjected to PRN medication ( $t = 6.29$ ,  $df = 1342$ ,  $p < 0.001$ ) and constant observation ( $t = 2.78$ ,  $df = 1327$ ,  $p = 0.005$ ) approved of these measures more strongly than other non-subjected service users, and those who had been subjected to manual restraint ( $t = 7.44$ ,  $df = 1344$ ,  $p < 0.001$ ) and compulsory IM medication ( $t = 7.08$ ,  $df = 1332$ ,  $p < 0.001$ ) disapproved of these measures more strongly than non-subjected service users.

*Staff:* There was a universal tendency for staff who had been engaged in using a specific coercion measure approving of it more strongly than those staff who had not (e.g. PRN medication  $t = 6.63$ ,  $df = 1139$ ,  $p < 0.001$ ; manual restraint  $t = 6.13$ ,  $df = 1161$ ,  $p < 0.001$ ). Sample sizes for physical restraint and intermittent observation were highly unbalanced as only 10-15% of staff had never been involved in implementing these procedures.

## Discussion

Overall, this survey has established a robust set of benchmark values with regard to how mental health service users and staff in England view various more-or-less controversial coercive measures. These norms can be used as a platform for further work in which the views of other groups of staff in the UK and internationally can be compared. They could also be used pre-post in evaluation studies in which attitudinal change is considered desirable.

This sample covering three regions of England is larger and more representative than that previously used for the ACMQ [18] based as that was on approximately one hundred student nurses at one university. Nevertheless it is worth noting that the relative order of approval of coercive methods from the students was slightly different when compared to the staff group in this study. PRN medication was the most approved method by the students and open area seclusion had a higher ranking. The students' ranking of methods was closer to that of the service user sample in this study, as were their overall approval scores.

The Canadian high secure staff studied by Harris et al. [17] showed the greatest approval rating for seclusion, in stark contrast to the English acute staff in this study, whose order of preferences broadly matched those of the English service users. This difference may be in part due to the different settings of the two studies. Canadian staff and service users disapproved equally of mechanical restraint as in this study. In contrast to the two American studies [16, 17], English staff (but not service users)

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3 rated seclusion as preferable to coerced IM medication. However again there was  
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5 agreement between the American and English staff in that mechanical restraint was  
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7 the most disapproved coercive method in both groups.  
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12 Some significant findings within this study are worth highlighting. There is evidence  
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14 of strong disapproval amongst both staff and service users with regard to the  
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16 introduction of mechanical restraint. Attitudes toward other existing measures did not  
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18 differ hugely between the two groups although service users tended to be more  
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20 disapproving overall than staff. The staff responses varied according to age with older  
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22 staff tending to disapprove more strongly of coercive measures. The age effect, that in  
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24 which younger staff were less disapproving of mechanical restraint, may reflect a  
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26 generation change in which 'old-fashioned' prejudices against an apparently  
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28 legitimate technique are being shed or may result from a lack of exposure to concrete  
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30 examples of use in the real world.  
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39 There was a greater approval of coercive methods by men (whether they be staff or  
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41 service users), a finding that confirms a previous international study using the same  
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43 instrument [19]. This indicates the importance of gender roles, perceptions and  
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45 identity in this area. The UK is fairly unique in having a mixed gender qualified  
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47 nursing workforce in psychiatry. The gender effect could reflect any of a large  
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49 number of more general hypothesised gender-related differences (e.g. empathy,  
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51 emotional intelligence). It could be that a more female dominated nursing workforce  
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53 would result in less coercive practice. However in other countries where female  
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55 nursing staff predominate, this has led to the harsher coercive measures being  
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3 implemented by male security guards or by male unqualified nursing aides [22],  
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5 ultimately resulting in much higher levels of use.  
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10 Personal experience was associated with some heterogeneity in the service user group.  
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12 There seems to be a tendency for exposure to ‘gentler’ measures (e.g. observation) to  
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14 enhance approval and conversely, for exposure to ‘harsher’ measures (e.g. IM  
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16 medication) to lead to stronger rejection of the measure. Staff reported quite a  
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18 consistent tendency to approve of techniques once they had employed them in their  
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20 practice which may reflect a process of attitudinal adjustment in which the person  
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22 justifies the measure to themselves afterwards to avoid unpleasant feelings of  
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24 cognitive dissonance (Harmon Jones, 1999).  
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32 Various study limitations must be acknowledged. The sample was large and  
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34 representative of the three regions (although not necessarily of elsewhere in England)  
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36 but staff involvement in the selection of service users could have introduced bias. Due  
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38 to time constraints when assembling the large sample, it was not possible to assess  
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40 potentially important covariates such as service user diagnosis, type of unit or rates of  
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42 assault. In addition, the analysis presupposes the notion of a stable attitude toward a  
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44 coercive measure which is consistent across situations. However it is possible that  
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46 such attitudes are more fluid and inevitably specific incidents will require different  
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48 types of intervention at different times. Further testing of the instrument especially in  
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50 relation to test-retest reliability would be beneficial.  
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## 56 **Conclusions**

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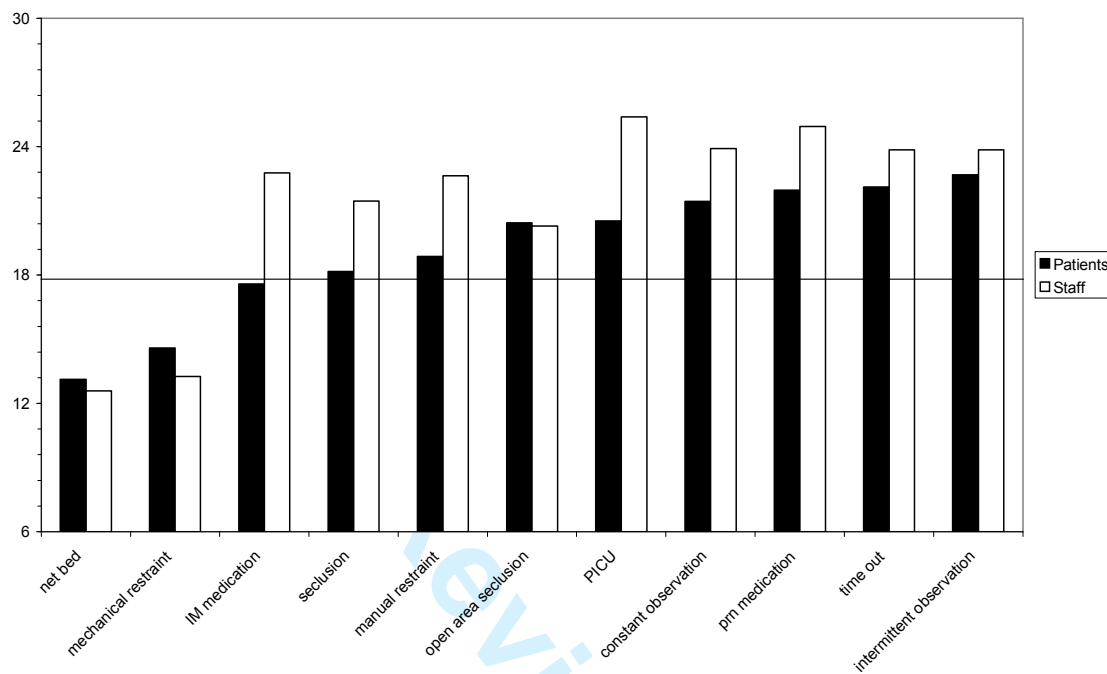
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3 Service users and staff were both strongly disapproving of the use of any form of  
4 mechanical restraint, although that disapproval was slightly stronger amongst the  
5 staff. This result suggests that any endeavour to introduce the use of mechanical  
6 restraint into adult acute psychiatry in the UK is likely to meet with significant  
7 opposition. From the pattern of results we can also predict that if mechanical restraint  
8 was introduced to the UK, staff who used it would approve of it more whilst service  
9 users subjected to it would dislike it even more leading to a harmful schism between  
10 service users and staff.  
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24 The greater approval of coercive methods by male staff, and in the case of the harsher  
25 methods their greater involvement in the use of them, raise questions about gender  
26 roles within psychiatric nursing. More attention to this aspect of psychiatric care and  
27 the issues around it during nurses' training might be necessary.  
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36 For service users the most acceptable coercive measure was intermittent observation,  
37 followed by time out and PRN medication. Ward regimes based on these methods  
38 rather than others are likely to be better received by service users. The least  
39 acceptable methods to service users (excluding those not in use in the UK) were  
40 restraint, seclusion and coerced IM medication. For these methods disapproval  
41 increased with experience, and their use should therefore be avoided as much as  
42 possible.  
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Figure 1 Overall approval of coercive methods by service users and staff



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**Table 1 Participant characteristics**

		Patients		Staff	
		N	%	N	%
<b>Female</b>		648	48	782	67
<b>Age</b>	<b>Under 20</b>	57	4	13	1
	<b>20-29</b>	268	20	298	25
	<b>30-39</b>	346	26	361	30
	<b>40-49</b>	368	27	332	28
	<b>50-59</b>	198	15	167	14
	<b>over 60</b>	113	8	25	2
<b>Region</b>	<b>North</b>	470	35	411	34
	<b>Central</b>	438	32	469	38
	<b>South</b>	453	33	346	28
<b>Total</b>		1361	100	1226	100

**Table 2: exposure to coercive measures (base 1,361 patients and 1,226 staff)**

	Patients		Staff	
	N	%	N	%
<b>PICU</b>	367	27	858	70
<b>PRN medication</b>	871	64	883	72
<b>Intermittent observation</b>	966	71	1177	96
<b>Constant observation</b>	612	45	1189	97
<b>Time out</b>	504	37	834	68
<b>IM medication</b>	531	39	834	68
<b>Physical restraint</b>	585	43	1091	89
<b>Seclusion</b>	381	28	564	46

**Table 3** Patient attitudes to containment scores: means and standard deviations

PATIENTS	Efficacy		Acceptability		Dignified		Safe for staff		Safe for patients		Prepared to undergo		Sum total approval	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PRN	3.67	0.98	3.73	0.94	3.59	1.01	3.73	0.90	3.62	0.94	3.63	1.04	21.97	4.67
Physical restraint	3.42	1.13	3.34	1.13	2.91	1.17	3.19	1.08	3.12	1.12	2.89	1.26	18.87	5.60
Intermittent observation	3.78	0.96	3.86	0.90	3.60	1.05	3.89	0.82	3.88	0.88	3.69	1.03	22.69	4.68
Seclusion	3.07	1.19	2.99	1.21	2.78	1.20	3.57	1.01	3.13	1.18	2.62	1.27	18.16	5.78
Time out	3.63	0.99	3.76	0.89	3.67	0.97	3.77	0.83	3.69	0.90	3.61	1.02	22.13	4.67
IM medication	3.25	1.23	2.91	1.25	2.59	1.21	3.26	1.13	2.99	1.18	2.59	1.29	17.59	6.07
PICU	3.55	1.03	3.53	1.04	3.31	1.08	3.64	0.93	3.50	1.01	3.00	1.24	20.53	5.33
Mechanical restraint	2.59	1.27	2.28	1.19	2.11	1.11	3.03	1.23	2.57	1.21	1.99	1.12	14.59	5.90
Constant observation	3.71	1.02	3.66	1.03	3.32	1.15	3.66	0.95	3.73	0.95	3.36	1.19	21.44	5.33
Net bed	2.27	1.24	1.97	1.10	1.91	1.08	2.86	1.32	2.37	1.24	1.73	1.01	13.12	5.77
Open area seclusion	3.50	1.03	3.48	1.05	3.34	1.09	3.42	1.00	3.48	1.01	3.21	1.19	20.44	5.53
Summed total score	36.43	7.28	35.52	7.34	33.13	7.85	37.98	6.74	36.08	7.35	32.32	8.42		

**Table 4** Staff attitudes to containment scores: means and standard deviations

STAFF	Efficacy		Acceptability		Dignified		Safe for staff		Safe for patients		Prepared to use		Sum total approval	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PRN	4.27	0.65	4.24	0.59	4.14	0.69	4.01	0.75	4.03	0.66	4.20	0.77	24.95	3.27
Physical restraint	4.04	0.75	3.95	0.75	3.45	1.03	3.45	1.00	3.61	0.89	4.07	0.77	22.64	4.13
Intermittent observation	3.93	0.90	4.08	0.73	3.80	0.88	3.82	0.88	4.00	0.79	4.16	0.71	23.84	4.10
Seclusion	3.65	1.03	3.54	1.02	3.28	1.08	3.69	0.97	3.58	0.99	3.62	1.07	21.45	5.48
Time out	3.96	0.79	4.05	0.70	3.98	0.76	3.85	0.81	3.94	0.75	4.05	0.73	23.86	4.02
IM medication	4.13	0.77	3.91	0.82	3.32	1.01	3.72	0.84	3.69	0.81	3.96	0.85	22.78	4.19
PICU	4.35	0.66	4.32	0.63	4.09	0.80	4.10	0.80	4.17	0.74	4.29	0.69	25.39	3.75
Mechanical restraint	2.42	1.17	2.10	1.02	2.02	1.02	2.47	1.10	2.25	1.04	2.05	1.09	13.26	5.78
Constant observation	4.22	0.69	4.20	0.66	3.51	1.03	3.61	0.97	4.08	0.71	4.22	0.64	23.91	3.71
Net bed	2.27	1.06	1.98	0.96	1.93	0.97	2.36	1.07	2.20	1.01	1.90	0.98	12.58	5.42
Open area seclusion	3.48	0.95	3.48	0.93	3.42	0.95	3.12	1.02	3.43	0.94	3.36	1.03	20.28	5.39
Summed total score	41.11	5.21	40.22	5.16	37.36	6.25	38.44	5.90	39.38	5.23	40.34	5.43		

NB: range from 1 to 5 for each individual item, from 6 to 30 for Sum total approval and from 11 to 55 for Summed total score in both tables. Higher scores indicate a positive evaluation in all cases

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