

Running Head: SECLUSION AND RESTRAINT USE AND CHILDHOOD ABUSE

The Relation between Seclusion and Restraint Use and Childhood Abuse among Psychiatric
Inpatients

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Abstract

Seclusion and restraint (S/R) is a controversial topic in the field of psychiatry, due in part to the high rates of childhood physical and sexual abuse found among psychiatric inpatients. The trauma-informed care perspective suggests that the use of S/R with previously abused inpatients may result in re-traumatization due to mental associations between childhood trauma and the experience during S/R. Thus, while one would expect to see efforts on the part of inpatient psychiatric facilities to limit S/R of previously abused inpatients, research suggests that trauma victims may be more likely to experience S/R. The current study sought to clarify this possibility by examining whether presence/absence and chronicity of childhood sexual and physical abuse differed among three groups of adult inpatients (N=622) residing at a mid-western state psychiatric hospital. These groups were empirically derived based on dramatic differences in the patterning of their exposure to S/R over the course of hospitalization. Chi-square and Kruskal-Wallis tests suggested that the classes did not significantly differ in presence/absence and chronicity of childhood sexual or physical abuse when male and female inpatients were analyzed separately. However, among the class of inpatients who experienced the most instances of S/R, seventy percent of the members had histories of childhood abuse. Implications for inpatients, clinicians, and policy makers are discussed.

The Relation between Seclusion and Restraint Use and Childhood Abuse among Psychiatric Inpatients

Seclusion and restraint (S/R) are methods of managing the self-harm and aggression behaviors of psychiatric inpatients. Seclusion involves the confinement of the inpatient alone in a locked room or area when the inpatient would normally be allowed to associate freely with others on the unit (Fryer, Beech, & Byrne, 2004), and restraint involves staff physically laying hands on a inpatient in the course of managing an untoward incident (Bonner, Lowe, Rawcliffe, & Wellman, 2002). More involved forms of restraint can include mechanical devices such as camisoles, restraining sheets, leather restraints and chairs that restrict or confine movement (Brown, Genel, & Riggs, 2000). Seclusion and restraint is a controversial topic in the field of psychiatry, in part due to the high rates of childhood physical and sexual abuse found among psychiatric inpatients (Read & Fraser, 1998; Borckardt et al., 2000).

The trauma-informed care perspective suggests that the use of S/R with previously abused inpatients may result in re-traumatization due to mental associations between childhood trauma and the experience during S/R (Carmen et al., 1996). For example, Carmen and Rieker (1998) report that “many survivors [of abuse] reported personal experiences with abusers who had restrained them [and] locked them away in closets, car trunks, and rooms.” While a primary goal of S/R is to de-escalate dangerous situations, it may lead abused inpatients to re-experience traumas, which may result in increased suffering for the inpatient as well as a greater risk of injury to the staff who are performing the S/R. For this reason, the significant reduction or elimination of S/R has become a prominent goal in the strategic plans of several national mental health agencies (Glover, 2005; SAMHSA, 2003). Thus, one would expect to see efforts on the part of inpatient psychiatric facilities to limit S/R use particularly with those previously abused

individuals at risk for retraumatization. Despite such contraindications, there is some research to suggest that trauma victims may actually be *more* likely to experience S/R in such settings.

The presence of childhood abuse histories in persons served by the mental health system represents an important point of assessment to inform treatment and prognosis (Kessler, Davis, & Kendler, 1997; Nemeroff, 2004). Traumatic childhood abuse can deleteriously affect the normal development of skills relevant to adaptive social functioning (Davidson, Shannon, Mulholland, & Campbell, 2009). In particular, emotional regulation capacities can become compromised (Shields, Cicchetti, & Ryan, 1994). Further, several researchers have noted that abuse history represents a potential complicating factor in the diagnosis and treatment of both physical and mental illnesses (Conus, Cotton, Schimmelmann, McGorry, & Lambert, 2009; Felitti et al., 1998; Leserman, 2005). Childhood abuse history is also an important correlate of adult aggression and suicidality (Anda et al., 2005; Brezo et al., 2008). Given their more complex clinical presentations, it seems logical to assume that inpatients with child abuse histories may more frequently engage in acts such as self-injury or injury to others that may unfortunately increase their risk for being secluded or restrained in a perhaps well-intended effort to promote safety. Indeed, there are studies that lend empirical support to this assumption.

While childhood physical and sexual abuse have been extensively linked to a multitude of adverse mental and physical health outcomes (Felitti et al., 1998), we are presently aware of only four studies that have empirically examined the relation between childhood abuse and the experience of S/R. One study found that male and female inpatients who experienced physical abuse, as well as female inpatients who experienced abuse of any kind, were more likely to have been secluded or restrained at least once while living on a child/adolescent psychiatric ward (Fryer et al., 2004). Another study in a children's psychiatric unit found that those who had

experienced physical and/or sexual abuse were more likely to have been placed in seclusion while residing in the unit (Millstein & Cotton, 1990). A third study found that adult inpatients who experienced life-threatening events (including childhood sexual abuse) were more likely to have experienced S/R at least once while living in a psychiatric unit (Steinert, Bergbauer, Schmid, & Gebhardt, 2007). The final study found that childhood sexual abuse was more common among adult psychiatric inpatients who experienced seclusion or restraint as an inpatient at least once in their life, though this difference was not found to be statistically significant (Freuh et al., 2005).

Overall, these studies suggest that inpatients with histories of trauma are more likely to experience S/R. However, the first two studies were limited to child samples and thus did not examine the association between childhood abuse and experience of S/R as an adult inpatient. The third study did not examine separately the independent contribution of abuse type to S/R use, making it impossible to parse out the influence of sexual abuse from the other traumatic events such as living through an earthquake. In addition, none of the four studies accounted for the chronicity of the abuse, effectively giving equal “traumatic weight” to a one-time fondling experience by a stranger and an eighteen-year period of pervasive sexual abuse by a father.

Furthermore, these studies adopted conventional data reduction and analysis techniques for S/R use by forming groups of subjects based on blunt dichotomous criteria (e.g., “never secluded” vs. “secluded”), which might obscure important individual differences in the frequency or patterning of S/R use. Treating S/R data in this manner ignores the possibility that inpatient subgroups may manifest unique S/R use patterns over time. For instance, Beck et al. (2008) studied patterns of S/R use over the course of a 24 month time period in a sample of 622 forensic psychiatric inpatients and found strong evidence for the existence of three highly

discrete trajectories of S/R use. The first trajectory (“Class Low”) consisted of individuals who were never or rarely secluded or restrained. The second trajectory (“Class Moderate”) was comprised of individuals who were initially secluded or restrained at a high rate, but after approximately 6 months the S/R rate of this group diminished markedly. The third trajectory (“Class High”) was characterized by very high rates of S/R use over the entire course of the study, although there was some evidence to indicate that these rates diminished significantly over time.

Considering the limitations of the extant literature, a study examining the presence and chronicity of both sexual and physical abuse as these relate to frequency of S/R use over the course of an inpatient’s hospital stay would provide a more detailed answer to whether trauma victims are more likely to experience S/R in an inpatient setting. We hypothesized that the presence and chronicity of childhood physical and sexual abuse among adult inpatients would be greater among those inpatients who most frequently experienced S/R.

Method

Participants

Data were drawn from the archival medical records at a 496-bed forensic and long-term care state hospital. All participants ($N = 622$) admitted during a five year period (9/01—9/06) and having a stay of at least 60 days were included in analyses. The project was given exempt status by an institutional review board, as the study relied on archival data. The sample included 536 men and 86 women ($M = 35.7$ years of age; $SD = 12.34$); of these, 375 were Caucasian, 231 were Black, 13 were Hispanic, and 3 were from other racial/ethnic backgrounds. Primary admission diagnoses included Psychotic Disorders ($n = 260, 41.8\%$), Antisocial Personality

Disorder ($n = 120$, 19.3%), Mental Retardation ($n = 82$, 13.2%), Bipolar Disorder ($n = 73$, 11.7%), and Borderline Personality Disorder ($n = 27$, 4.3%).

Measures

History of Abuse as a Child. The documented presence/absence and chronicity of both childhood sexual and physical abuse was recorded by examining hospital records. Presence/absence was dichotomously coded (i.e., 0 = no documented abuse history; 1 = documented abuse history) while chronicity of sexual and physical abuse was rated on a 5-point scale (i.e., 1 = abused once; 5 = abused throughout most of childhood and adolescence). Record reviewers were psychology practicum students who received training in the categories employed. Approximately 10% of the records were overlapped and rated independently by these persons. Inter-rater agreement averaged 90% across rater pairings.

Seclusion/Restraint Trajectory Class. Utilizing latent class analysis (LCA), Beck and colleagues (2008) separated participants into empirically derived groups on the basis of the similarity in their institutional S/R trajectories over the hospital course. LCA analysis parses individuals into groups on the basis of their similarity across a set of indicator variables. In this case, the indicator variables are bimonthly counts of seclusion/restraint episodes over the course of the first two years since admission. LCAs were performed using Mplus software (Muthen & Muthen, 2000), specifying a Poisson distribution for the indicator variables, as they are count variables that are not normally distributed. Several indices of model fit were used to determine the appropriateness of a latent class model, as well as the number of classes to retain. Three discrete latent classes based on naturally occurring S/R trajectories emerged. These three classes—Class Low, Class Moderate, and Class High—were described in the above Introduction.

Statistical Analysis

First, we used Pearson Chi-square tests to compare the distribution of proportions of presence/absence of physical and sexual abuse for the three Classes. We used follow-up Pearson Chi-square tests with Bonferroni-adjusted significance levels to compare each group with the others. Differences in chronicity of physical and sexual abuse among the three groups were then assessed with Kruskal-Wallis nonparametric analysis of variance tests, due to the ordinal nature of the dependent variables (Kruskal & Wallis, 1952). We used follow-up Mann-Whitney U-tests with Bonferroni-adjusted significance levels to compare each group with the other two.

Noting that females seemed to be overrepresented in Class High, we then used post-hoc chi-square tests to determine whether the proportion of men to women differed between classes.

Results

Table 1 presents physical and sexual abuse presence/absence percentages as well as the corresponding chi-square statistics for the three S/R Classes. Chi-square analyses indicated significant Class differences in presence/absence of physical abuse, $\chi^2(2, 622) = 6.65, p = .036$. Follow-up analyses revealed that Class High (51.2%) was significantly more likely to have experienced physical abuse than both Class Moderate (30.4%; $\chi^2(1, 179) = 5.99, p = .014$) and Class Low (32.3%; $\chi^2(1, 484) = 6.01, p = .014$). Class Moderate and Class Low did not significantly differ ($p > .05$). Likewise, there was a significant Class difference in presence/absence of sexual abuse, $\chi^2(2, 622) = 17.19, p < .001$. Follow-up analyses revealed that Class High (53.7%) was significantly more likely to have experienced sexual abuse than both Class Moderate (25.4%; $\chi^2(1, 179) = 11.66, p < .001$) and Class Low (23.9%; $\chi^2(1, 484) = 17.05, p < .001$). Again, Class Moderate and Class Low did not significantly differ ($p > .05$).

Table 2 presents physical and sexual abuse chronicity means, standard deviations, and the corresponding Kruskal-Wallis statistics for the three S/R Classes. Regarding level of chronicity

of childhood physical abuse, a Kruskal-Wallis test found no difference between the Classes ($p > .05$). However, chronicity of childhood sexual abuse differed significantly between the Classes, $\chi^2(2, 622) = 17.20, p < .001$. Follow-up analyses found that Class High ($M = 1.51, SD = 1.85$) experienced significantly greater childhood sexual abuse than both Class Moderate ($M = .71, SD = 1.47; p < .001$) and Class Low ($M = .65, SD = 1.39; p < .001$). Classes Moderate and Low did not differ significantly from each other ($p > .05$).

Regarding group differences in the proportion of men to women, a significant overall effect for gender was observed, $\chi^2(2, 622) = 33.38, p < .001$. Follow-up analyses indicated that there was significantly greater percentage of women in Class High (43.9%) than in both Class Moderate (12.3%; $\chi^2(1, 179) = 20.05, p < .001$) and Class Low (11.5%; $\chi^2(1, 484) = 32.21, p < .001$). Upon repeating the same series of chi-square and Kruskal-Wallis tests mentioned above on men and women separately, we found that the class differences did not reach statistical significance, despite trends in the hypothesized direction (see Tables 1 and 2). However, the statistical power associated with these analyses ranged from .111 to .456—levels far below what is considered adequate power (.80) to detect latent effects (Cohen, 1988).

Discussion

The current study examined whether the presence/absence and chronicity of childhood physical or sexual abuse among adult inpatients was greater among those who most frequently experienced S/R. Analyses revealed that inpatients whom experienced the highest relative rates of S/R use over time were significantly more likely to have experienced childhood physical and sexual abuse. These inpatients also experienced significantly more chronic childhood sexual abuse than those with less frequent S/R use. However, statistically significant differences between classes when analyzing the two groups separately were not observed, perhaps due to a

resulting decrease in statistical power. Therefore, the current analyses do not provide robust support for the hypothesis that the presence of childhood physical and sexual abuse, and the chronicity of childhood sexual abuse, are greater among those who most frequently experience S/R.

However, the finding that 50 percent of those being exposed to a high level of S/R (i.e., those in Class High) have a prior history of abuse is a noteworthy finding that has implications for inpatient welfare, clinical practice, and institutional policy. Literature on trauma among psychiatric inpatients suggests that retraumatization may exacerbate clients' emotional pain, engendering helplessness and fear (Cohen-Cole, 2002; Freuh et al., 2005). Inpatients report feeling isolated and ashamed after experiencing S/R, and seldom receive the post-incident support that compassionate and ethical cares necessitate (Bonner et al., 2002; Nolan, Soares, Dallender, Thomsen, & Arnetz, 1999). Furthermore, retraumatization may lead to additional behavioral dysregulation (Freuh et al., 2005), which increases risk of physical injury to clients and staff (LeBel & Goldstein, 2005). These cycles of trauma and response perpetuate human suffering (Carmen et al., 1996). For these compelling reasons, it is important that administrators and clinicians actively discourage the use of S/R within inpatient setting. However, developing effective alternative interventions and supports can be a challenging institutional undertaking and may require extensive systemic and cultural changes that may not be initially embraced by clinical and administrative staff alike.

The National Technical Assistance Center (NTAC) of the National Association of State Mental Health Program Directors (NASMHPD) has produced six core strategies to assist organizations in reducing their reliance on S/R procedures (Glover, 2005). Of particular relevance among the NTAC core strategies is the recommendation that psychiatric hospitals

provide trauma-informed care. Trauma-informed approaches emphasize the creation of a therapeutic milieu to promote healing and minimize clients' experience of and exposure to additional trauma, while providing treatment to address the effects of previous trauma (Bills & Bloom, 1998; Bloom, 1994; Falot & Harris, 2002). Furthermore, these approaches stress the importance of educating all staff about trauma and the potential for re-traumatization resulting from the use of S/R as well as about alternative interventions that can help staff avoid the use of S/R.

To better serve these clients, administrators and clinicians may consider several strategies (see Carmen & Rieker, 1998). First, administrators should strive to involve clients in policy and intervention development and practice whenever possible. Second, all clients should be assessed for trauma histories at admission. This supplies the information necessary to co-create individualized treatment and "de-escalation" plans for the client, thereby collaboratively involving the individual in his or her own recovery. For instance, if the client has a history of sexual abuse, protocol can be put into place to insure that his or her legs are not spread apart in the event of S/R. Third, if S/R use does occur, staff should immediately debrief and request feedback from the client. An investigation of the root cause should be undertaken, and the resultant findings incorporated into future care considerations for that client.

Limitations of this study necessitate further research. First, hospital records are not definitive sources of whether and to what extent an individual has been abused. It may be difficult for individuals to accurately remember and/or feel comfortable sharing their histories of abuse with the professional conducting the evaluation. Reported prevalence rates therefore likely underestimate the true prevalence of abuse experiences among the sample. A second limitation mentioned in the results section is the lack of power to detect potential differences between

genders and classes on abuse chronicity. Furthermore, the majority of our sample was either Black or Caucasian, thus limiting the generalizability of our findings to other racial/ethnic groups. Therefore, future research should utilize larger and more diverse samples to ensure adequate power and increased generalizability. Also, since countries such as Great Britain, Sweden, and Scotland have greatly reduced the use of S/R (Rogers & Bocchino, 1999), these findings must be considered within the context of existent cultural differences. Last, diagnosis and other clinical characteristics likely impact an individual's risk for S/R use. We are currently investigating the predictive value of these variables, and preliminary data suggests that persons diagnosed with an intellectual disability and emotion dysregulation disorders such as borderline personality disorder may be at the greatest risk (Durrett et al., 2009). Despite these limitations, the current results do provide additional support for an increased focus on further reducing S/R use in psychiatric hospital settings.

The NTAC core strategies for reducing S/R use in psychiatric hospitals are being implemented at numerous hospitals around the country, including the one in this study, owing largely to the funding priority this initiative has been given by the Substance Abuse and Mental Health Services Administration (SAMHSA). It is hoped that the resulting changes in administrative approaches and clinical practices will reduce the potential harmful effects of re-traumatization among vulnerable samples such as the one in this study.

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Table 1.

Childhood Abuse Physical and Sexual Abuse Differences between S/R Classes

	Seclusion and Restraint Class Membership							χ^2
	Low (<i>n</i> = 443)		Moderate (<i>n</i> = 143)		High (<i>n</i> = 41)			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Presence of sexual and physical abuse								
Sexually Abuse								
Men	80	20.4	27	22.3	8	34.8	2.73	
Women	26	51.0	8	47.1	14	77.8	4.53	
Total	106 ^a	23.9	35 ^a	25.4	22 ^b	53.7	17.19	**
Physically Abuse								
Men	120	30.6	36	29.8	11	47.8	3.15	
Women	23	45.1	6	35.3	10	55.6	1.45	
Total	143 ^a	32.3	42 ^a	30.4	21 ^b	51.2	6.65	*

Note: Classes sharing a common subscript are not statistically significantly different at .01 according to the Bonferroni correction procedure. Chi-square *df* = 2, 622.

p* < .05, *p* < .001

Table 2.

Childhood Abuse Physical and Sexual Abuse Chronicity Differences between S/R Classes

	Seclusion and restraint Class membership						χ^2
	Low (<i>n</i> = 443)		Moderate (<i>n</i> = 143)		High (<i>n</i> = 41)		
	M	SD	M	SD	M	SD	
Severity of sexual and physical abuse							
Sexual Abuse							
Men	.50	1.20	.60	1.34	.54	1.25	2.84
Women	1.78	2.10	2.28	1.93	1.84	2.05	2.32
Total	.65 ^a	1.39	.71 ^a	1.47	1.51 ^b	1.85	17.20 **
Physical Abuse							
Men	1.29	2.06	1.18	1.95	2.04	2.23	2.68
Women	1.92	2.33	1.65	2.32	1.99	2.29	.65
Total	1.37	2.10	1.24	2.00	2.17	2.20	5.32

Note: Means sharing a common subscript are not statistically significantly different at .01 according to the Bonferroni correction procedure. Kruskal-Wallace $df = 2, 622$.

** $p < .001$.