



THE UNIVERSITY OF
CHICAGO

SCHOOL OF SOCIAL SERVICE ADMINISTRATION

DEFINING PROBLEMS. SHAPING SOLUTIONS.

Suicidal Behaviors in Prisons: Examining Racial Differences in Suicidal Behaviors and Health Care Disparities in Prison Responses

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Suicidal Behaviors in Prisons

- National suicide rate for incarcerated adults in the U.S. is three times the rate of adults in the community (Fazel, Grann, Kling, & Hawton, 2011; Hayes, 2010)
- Suicide is the second leading cause of death in prisons (Carson & Cowhig, 2020)
- Centers for Disease Control and Prevention definition of suicidal behavior includes fatal and non-fatal suicide attempts (Crosby, Ortega, & Melanson, 2011)
- Record review for over 10,000 incarcerated adults: 3.4% of adults' records with a mental health diagnosis code of suicide attempts (Gates, Turney, Fegruson, Walker, & Staples-Horne, 2017)
- Over 40% of incarcerated adults who die by suicide have a history of a prior attempt while in prison with potentially lethal means (Daniel & Fleming, 2006; Hawton et al., 2014; He et al., 2001)

Suicidal Behaviors in Prisons

- National and international suicide prevention standards suggest physical and mental health care post-attempt (Hawton, Linsell, Adenijii, Sariasian, & Fazel, 2014; Konrad et al., 2007; World Health Organization & International Association for Suicide Prevention, 2007)
- Over 80% of suicides were preventable if staff had responded to prior suicidal behaviors with treatment rather than punitive-focused responses such as placement in segregation (Patternson & Hughes, 2008)
- Common policies to place in segregated housing and with punishment (Daniel, 2006; Konrad et al., 2007)

Suicidal Behaviors in Prisons

- Individual, Incident, and Institutional Risk Factors (Daniel & Fleming, 2006; Fazel, Cartwright, Norman-Nott, & Hawton, 2008; Fazel, Ramesh, & Hawton, 2017)
 - Gender, race, age
 - Lethality of method
 - Placement on a single-cell increases risk by more than 400 times relative to placement on a double-cell (Reeves & Tamburello, 2014)
 - Institutional differences: men only, women only, or mixed-gender (Dye 2011; 2012)
- Understand in relation to suicidal behaviors, not known if predict the provision of health care post-attempt

Suicidal Behaviors in Prisons

Existing Research:

- Use of a single theory
 - Importation theory perspective (“prisoner suicides”)
 - Deprivation theory perspective (“suicides in prisons”)
 - Need for integration (Dye, 2010; Fedock, 2017)
- Lack of understanding sub-populations
- Lack of research examining how prison staff respond to suicide attempts (DeHart et al., 2009)
 - Punitive responses and health care treatment responses
 - Who is more likely to receive punitive responses?
 - Who is more likely to receive treatment responses?
 - Punitive responses may exacerbate suicide risk (Way, Sawyer, Barboza, & Nash, 2007)
 - Racial differences in treatment within prisons (Wade-Olson, 2016)

Current Study: Research Aims

- **Research Aim 1:** Examine suicidal behaviors in men's and women's prisons
 - Identify sub-populations based on behaviors
 - Identify racial differences

- **Research Aim 2:** Investigate prison staff's responses to suicide attempts to assess for health care disparities
 - Identify predictors of receipt of health care
 - Identify gaps in the provision of health care

Current Study

- **Phase 1: Mixed effects logistic regression:** Examined individual, incident, and institutional factors associated with staff responses to suicide attempts, particularly the provision of physical and mental health care
 - Race as a significant predictor
 - Method
 - Housing unit
- **Phase 2: Latent class analysis:** Identify subpopulations based on patterns in the data and types of treatment for each subpopulation
 - Attentive to race, methods, housing unit (particularly segregated housing)

Methods

- **Administrative Data:**
 - Critical Incident Reports
 - 2006-2011
 - Multi-security level men's and women's prisons
 - 518 incidents
- **DOC Data:**
 - Racial identity, Offense type, Length of sentence, Age

Methods

- **Critical Incident Report Domains:**
 - **Type of Incident:** Drug overdose, disruptive behavior, self-harm, attempted suicide
 - **Method**
 - **Location of the Attempt**
 - **Reason for Attempt**
 - **Immediate Staff Response/Action:** Physical restraint applied; Misconduct report written; Request for health care
 - **Subsequent Staff Response/Action:** Placement in segregation; Place in health care

Methods

- **Latent Class Analysis (LCA):** Subgroups of individuals with similar item-response patterns (Asparouhov & Muthen, 2014)
 - Binary Variables
 - MPlus version 7.4 (Muthen & Muthen, 2012)
- **Statistical Fit Indices:** Akaike Information Criteria (AIC), Bayesian Information Criterion (BIC), entropy, and average latent class probabilities (Nylund-Gibson, & Masyn, 2016; Tofighi & enders, 2008)
- **3 Step Procedure for Examining Race (1=Black/African American) as a Predictor of Classes and Distal Outcomes (i.e., Staff Responses by Class Membership)**
- **Analyses within samples of women and men**

Results

- Of the 518 incidents, 161 (31.1%) were connected to women, and 357 (68.9%) to men.
- **Women:**
 - 83 women
 - 41 were Black/African American women (49.4%)
 - 1-13 incidents per adult
 - 17-62 years old; $M=33.32$, $SD=9.05$
- **Men:**
 - 207 men
 - 89 were Black/African American men (43.4%)
 - 1-18 incidents per adult
 - 19-61 years old; $M=30.43$, $SD=8.80$

	Women (n=83)	Men (n=207)
Demographics		
Age 25 or younger	17.2%	35.5%
Convicted of Violent Offense	41.3%	53.6%
Max Length of Sentence <=5 years	14.8%	13.5%
Max Sentence 6-10 years	11.9%	15.5%
Life Sentence	11.1%	6.2%
Staff Label for Behavior		
Attempted Suicide	71.1%	71.5%
Drug Overdose	13.3%	19.3%
Self-Harm	25.3%	22.6%
Disruptive Behavior	10.8%	16.9%
Method		
Hanging/Suffocation	45.8%	36.2%
Drug Overdose	26.5%	30.9%
Cutting	33.7%	38.6%
Location of Attempt		
Segregation	34.9%	51.7%
Housing Unit	57.8%	35.7%
Mental Health Unit	30.1%	20.3%
Staff Immediate Action		
Physical Restraint	62.7%	60.4%
Misconduct Ticket Written	31.3%	26.6%
Medical Assistance Called- Facility	90.4%	93.2%
Medical Assistance Called-Outside	51.8%	68.6%
Staff Responses		
Placement in Segregation	44.6%	45.4%
Placement in Hospital	27.7%	30.4%
Misconduct Ticket Written	31.3%	27.1%

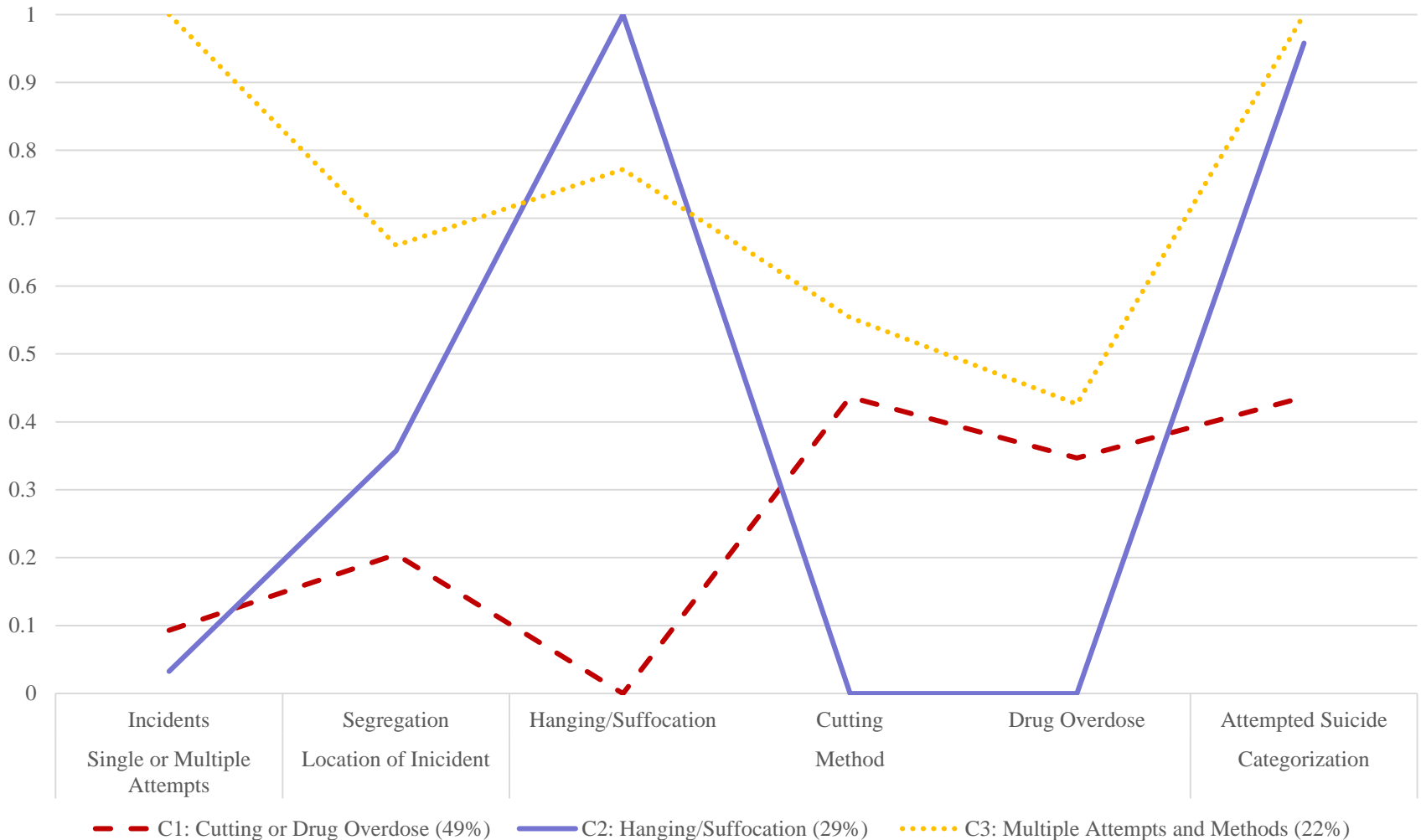
Women	1 Class	2 Classes	3 Classes	4 Classes
N of free Parameters	6	13	20	27
Loglikelihood	-310.90	-285.43	-267.90	-256.37
AIC	633.80	596.87	575.79	566.76
BIC	648.32	628.31	624.17	632.04
Entropy	--	1.00	.96	.94
Average Latent Class Probabilities	--	1.00-1.00	.97-1.00	.92-1.00

Men	1 Class	2 Classes	3 Classes	4 Classes
N of free Parameters	14	29	44	59
Log likelihood	-877.43	-821.95	-770.16	-741.22
AIC	1782.86	1701.89	1628.33	1601.45
BIC	1829.52	1798.54	1774.97	1798.08
Entropy	--	1.00	.97	.96
Average Latent Class Probabilities	--	1.00-1.00	.98-1.00	.93-.99

Table 1.

Fit Indices for Selection of Latent Classes for Women and Men.

Note. AIC = Akaike Information Criteria. Bayesian Information Criterion = BIC. The bolded columns are the solutions selected as optimal based on fit indices.



Women	Cutting or Drug Overdose (C1) vs. Hanging/Suffocation (C2)	Cutting or Drug Overdose (C1) vs. Multiple Attempts and Methods (C3)	Hanging/Suffocation (C2) vs. Multiple Attempts and Methods (C3)
Race: African American	9.68** [6.87, 23.49]	3.32 [2.33, 7.86]	2.94 [2.22, 8.94]

Race as a Predictor of Class Membership.

Note. The first class listed is the reference class. C1 = Class 1; C2 = Class 2; C3 = Class 3. Results are presented as Odds Ratios [95% Confidence Interval]

* $p < .05$. ** $p < .01$.

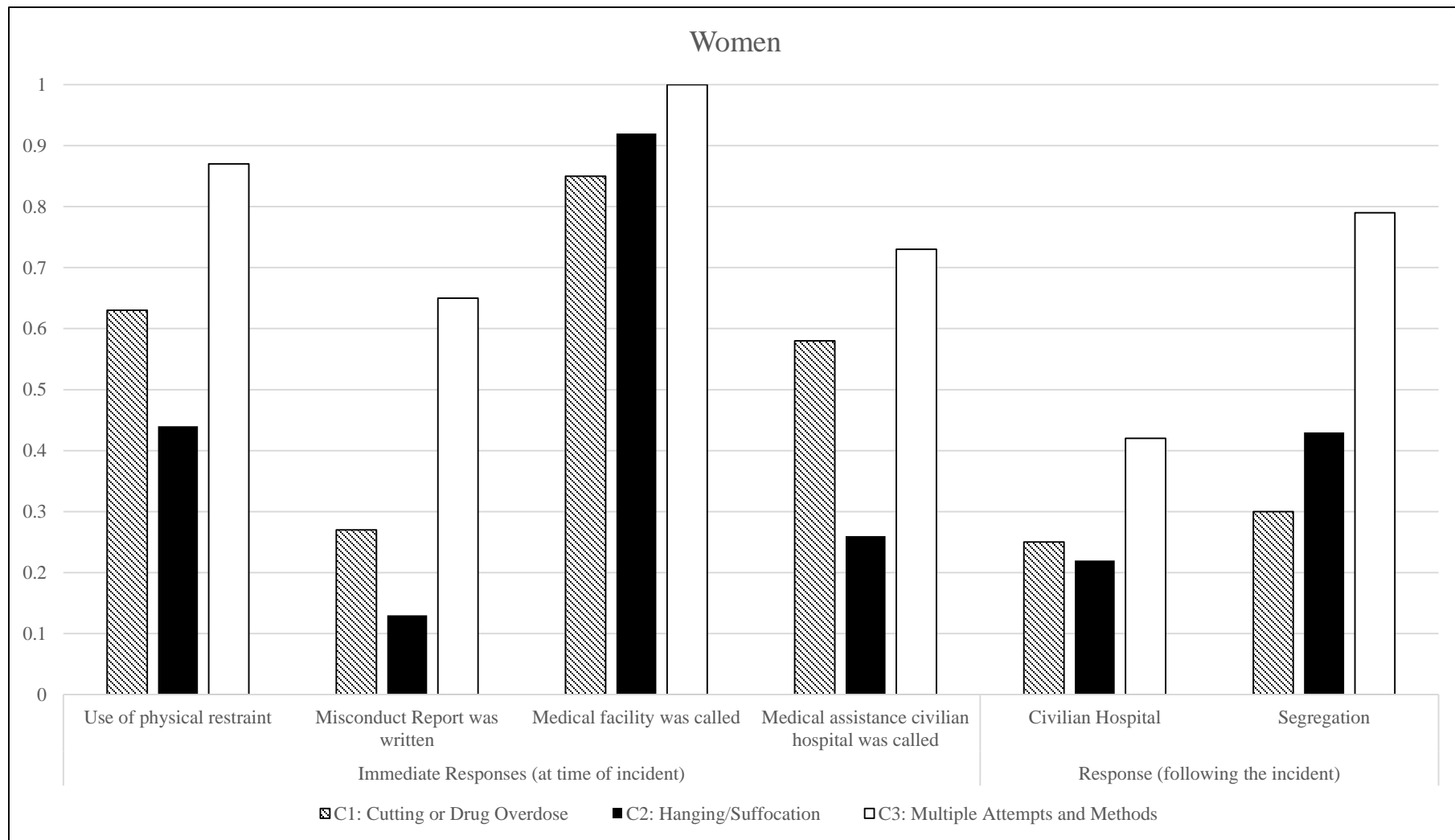
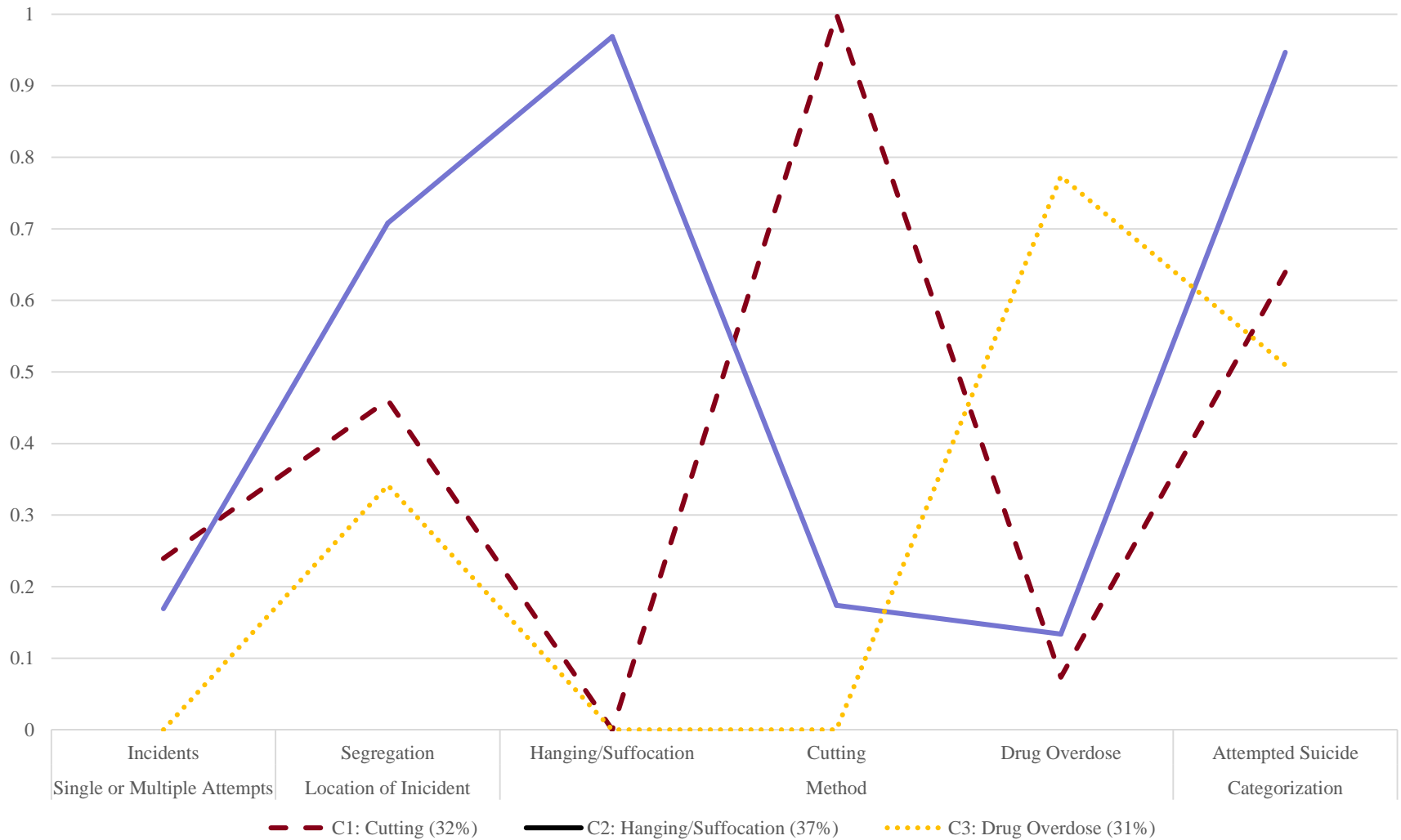


Figure 3. Differences in staff responses by class membership.

Women		Cutting or Drug Overdose (C1) vs. Hanging/Suffocation (C2)		Cutting or Drug Overdose (C1) vs. Multiple Attempts and Methods (C3)		Hanging/Suffocation (C2) vs. Multiple Attempts and Methods (C3)	
		χ^2	p	χ^2	p	χ^2	p
Immediate Responses (at the time of the incident)	Use of Physical Restraint	2.16	.14	4.95*	.03	10.58**	<.001
	Misconduct Report was Written	2.14	.14	5.92*	.02	11.63**	<.001
	Medical Facility was Called	0.63	.43	7.02**	.008	2.18	.14
Response (following the incident)	Medical Assistance Civilian Hospital was Called	6.79**	.009	1.19	.28	9.83**	.002
	Civilian Hospital	0.09	.77	1.38	.24	1.72	.19
	Segregation	1.13	.29	13.65**	<.001	5.36*	.02

Class Membership in Relation to Staff Responses.

* $p < .05$. ** $p < .01$.



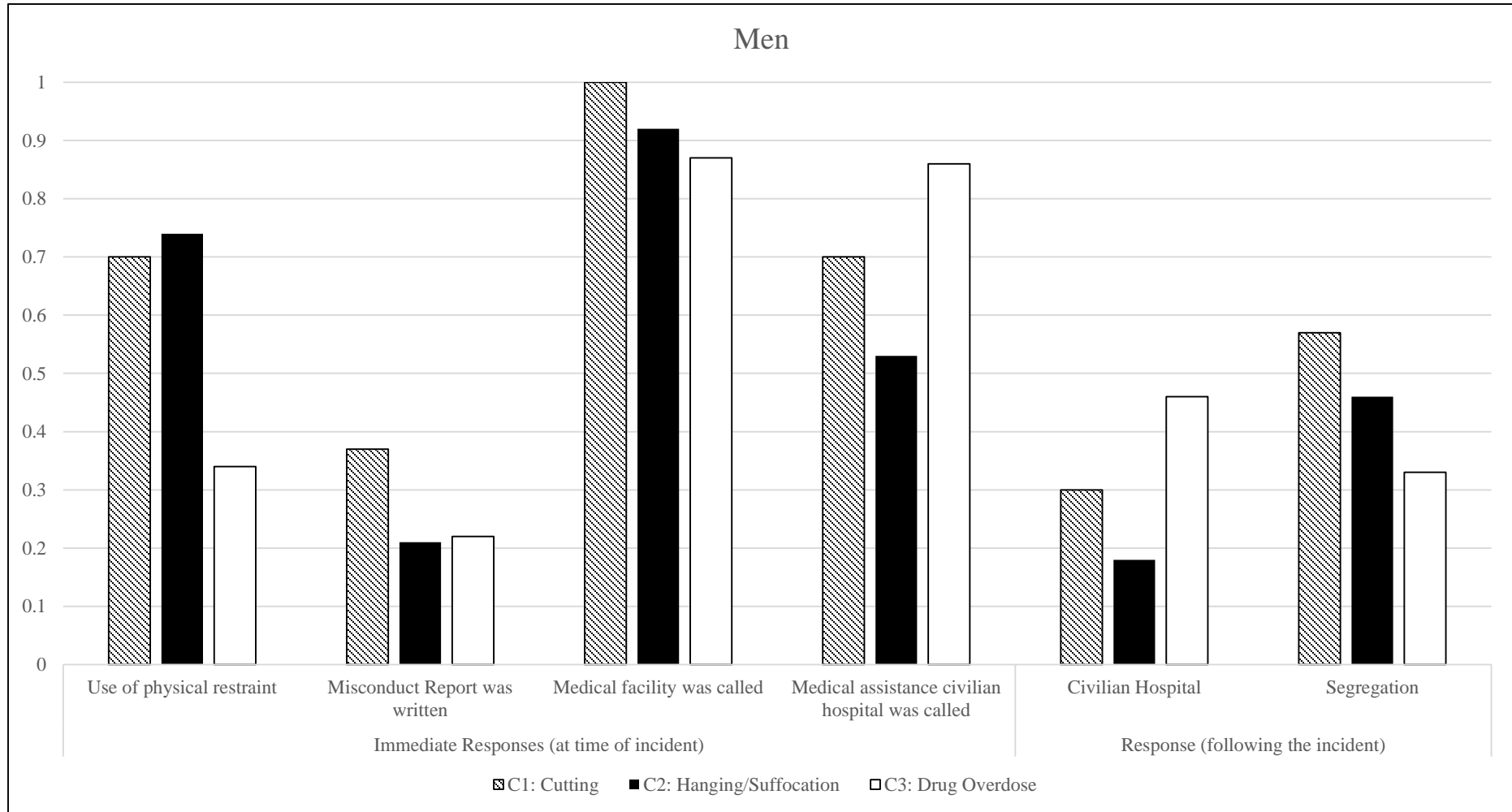
	Cutting (C1) vs. Hanging/Suffocation (C2)	Cutting (C1) vs. Drug Overdose (C3)	Hanging/Suffocation (C2) vs. Drug Overdose(C3)
Men			
Race: African American	3.24** [1.63, 3.29]	1.19 [.62, 1.31]	0.37* [0.38, 0.19]

Race as a Predictor of Class Membership.

Note. The first class listed is the reference class. C1 = Class 1; C2 = Class 2; C3 = Class 3. Results are presented as Odds Ratios [95% Confidence Interval]

* $p < .05$. ** $p < .01$.

Results for Men



Men

		Cutting (C1) vs. Hanging/Suffocation (C2)		Cutting (C1) vs. Drug Overdose (C3)		Hanging/Suffocation (C2) vs. Drug Overdose(C3)	
		χ^2	p	χ^2	p	χ^2	p
Immediate Responses (at the time of the incident)	Use of Physical Restraint	0.23	.63	19.29**	<.001	25.14**	<.001
	Misconduct Report was Written	4.66*	.03	3.84	.05	0.01	.91
	Medical Facility was Called	6.44*	.01	8.93**	.003	0.82	.37
Response (following the incident)	Medical Assistance Civilian Hospital was Called	4.75*	.03	5.14*	.02	21.46**	<.001
	Civilian Hospital	2.57	.11	3.47	.06	12.31**	<.001
	Segregation	1.64	.20	8.04**	.005	2.61	.11

Class Membership in Relation to Staff Responses.

* $p < .05$. ** $p < .01$.

Implications

- **Subpopulations and treatment outcomes**
- **Racial differences in suicidal behaviors**
 - History of underreporting deaths by suicide for Black incarcerated adults (Haycock, 1989; Hayes, 2010)
 - Community-based research (Vanderweker et al., 2007)
 - Focus on experiences of racial minority adults (Joe et al., 2006)
- **Health care disparities post-suicide attempt**
 - Racial differences in treatment within prisons (Wade-Olson, 2016)
 - Incarcerated Black adults more likely to get segregated housing than mental health care (Kaba et al., 2015; Way, Miraglia, Sawyer, Beer, & Eddy, 2005)

Implications

- **Theory:** Capture dynamics across importation and deprivation factors across time; Identify types of care provided; Racial disproportionality within institution
- **Practice:** Improving provision of treatment; Expanding prevention and intervention domains for suicide prevention
- **Policy:** Prevent use of segregated housing; Beyond preventing death on suicide watch (Hayes, 2013)
- **Research:** Longitudinal research across institutions and states with varying policies and levels of racial disproportionality

COVID-19 & Racial Disparities

UCLA Covid-19 Behind Bars Data Project

- **Confirmed cases in state and federal prisons (including selected jails in NY, IL, CA, DC): 12,840**
 - 1,377 residents recovered
 - 172 confirmed resident deaths
- **Federal and State Responses (8611 people released):**
 - Medical Furloughs; Release pregnant adults; Release incarcerated mothers and infants; Within 90 days of outdate
- **Racial Disparities; Treatment Responses**