

# The Past is Never Past:

## Childhood Trauma Influences Current OUD Severity

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### BACKGROUND

Adverse childhood experiences (ACE) have been identified as a significant risk factor for Opioid Use Disorder (OUD), with research supporting a cumulative effect of ACE on the likelihood of OUD. While ACE is associated with OUD prevalence, its effect on the pattern of opioid use, including initiation and severity, remains unknown. Furthermore, while mental health diagnoses have been shown to exacerbate the relationship between ACE and OUD, there is limited data on potential mitigating factors. This investigation aimed to evaluate the association between reported childhood trauma and both the initiation of opioid use and current severity of opioid use. Furthermore, we aimed to evaluate how simultaneous factors experienced in childhood, including past social support, sport participation, and religious involvement, might affect this association.

### METHODS

- Long-term Outcomes of Opioid-using Persons (LOOP) is a prospective cohort study of 200 individuals with OUD living in Washington, DC, and Maryland.
- Patients are seen every six months for 2 years and are administered surveys collecting demographic and drug use data.
- For this analysis, assessments were administered approximately six months after enrollment at a single timepoint.
- ACE was measured by the Childhood Trauma Questionnaire (CTQ). An additional consent was done prior to completing the CTQ due to the risk of re-traumatization, with no penalty for opting out.
- OUD severity was measured by DSM-5 Criteria for OUD
- Age of OUD initiation was obtained by patient self-report.
- Modified versions of the ENRICH Social Support Instrument, Religious Commitment Inventory-10, and Sports Instrument measured these factors in childhood, defined as birth to age 18.
- Statistical analysis was completed utilizing SAS software (version 9.4) and Microsoft Excel.
- Multiple linear regression model was utilized to analyze factors associated with age of opioid use and OUD severity.

### RESULTS

Patient Demographics	Total (n=144)	Childhood Trauma by CTQ	
		Any (n=119)	None (n=25)
<b>Age, mean(IQR)</b>	56.3 (21-73)	55.6 (21-73)	56.9 (30-70)
<b>Gender, n(%)</b>			
Male	92 (64.8%)	77 (64.7%)	15 (60%)
Female	50 (35.2%)	40 (33.6%)	10 (40%)
<b>Housing Status, n(%)</b>			
Stable	79 (55.6%)	64 (53.8%)	14 (56%)
Unstable	63 (44.4%)	51 (42.9%)	9 (36%)
<b>Mental Health, n(%)</b>			
Depression	90 (62.5%)	72 (60.5%)	18 (72%)
Anxiety	86 (59.7%)	68 (57.1%)	18 (72%)
<b>Current OUD Severity, n(%)</b>			
None	44(31.9%)	49 (41.2%)	13 (52%)
Mild	38 (27.5%)	18 (15.1%)	2 (8%)
Moderate	15 (10.8%)	13 (10.9%)	2 (8%)
Severe	41 (29.7%)	39 (32.8%)	8 (32%)
<b>OUD Age of Onset, mean (IQR)</b>	20.7 (10-48)	20.8 (10-48)	19.6 (13-30)

Table 1. Patient Characteristics of the Cohort (n=144). CTQ= Childhood Trauma Questionnaire.

Variable	Est	Std Err	P-value	95% CI	
<b>Age</b>	<b>-0.0820</b>	<b>0.0291</b>	<b>0.0057</b>	<b>-0.1397</b>	<b>-0.0243</b>
<b>Gender</b>	<b>-1.6966</b>	<b>0.6120</b>	<b>0.0064</b>	<b>-2.9078</b>	<b>-0.4854</b>
<b>Domestic Violence</b>	<b>0.6063</b>	<b>0.2265</b>	<b>0.0084</b>	<b>0.1580</b>	<b>1.0546</b>
<b>Depression</b>	<b>1.8873</b>	<b>0.7097</b>	<b>0.0089</b>	<b>0.4828</b>	<b>3.2918</b>
<b>Anxiety</b>	<b>-1.4058</b>	<b>0.6959</b>	<b>0.0455</b>	<b>-2.7832</b>	<b>-0.0284</b>
<b>CTQ Score</b>	<b>0.447</b>	<b>0.222</b>	<b>0.0466</b>	<b>0.007</b>	<b>0.887</b>
ESSI Score	0.041	0.033	0.2180	-0.024	0.106
RCI Score	-0.027	0.023	0.2540	-0.073	0.019
SPS Involvement	0.038	0.687	0.9556	-1.320	1.396

Table 2. Multiple Regression Analysis of Factors Associated with OUD Severity

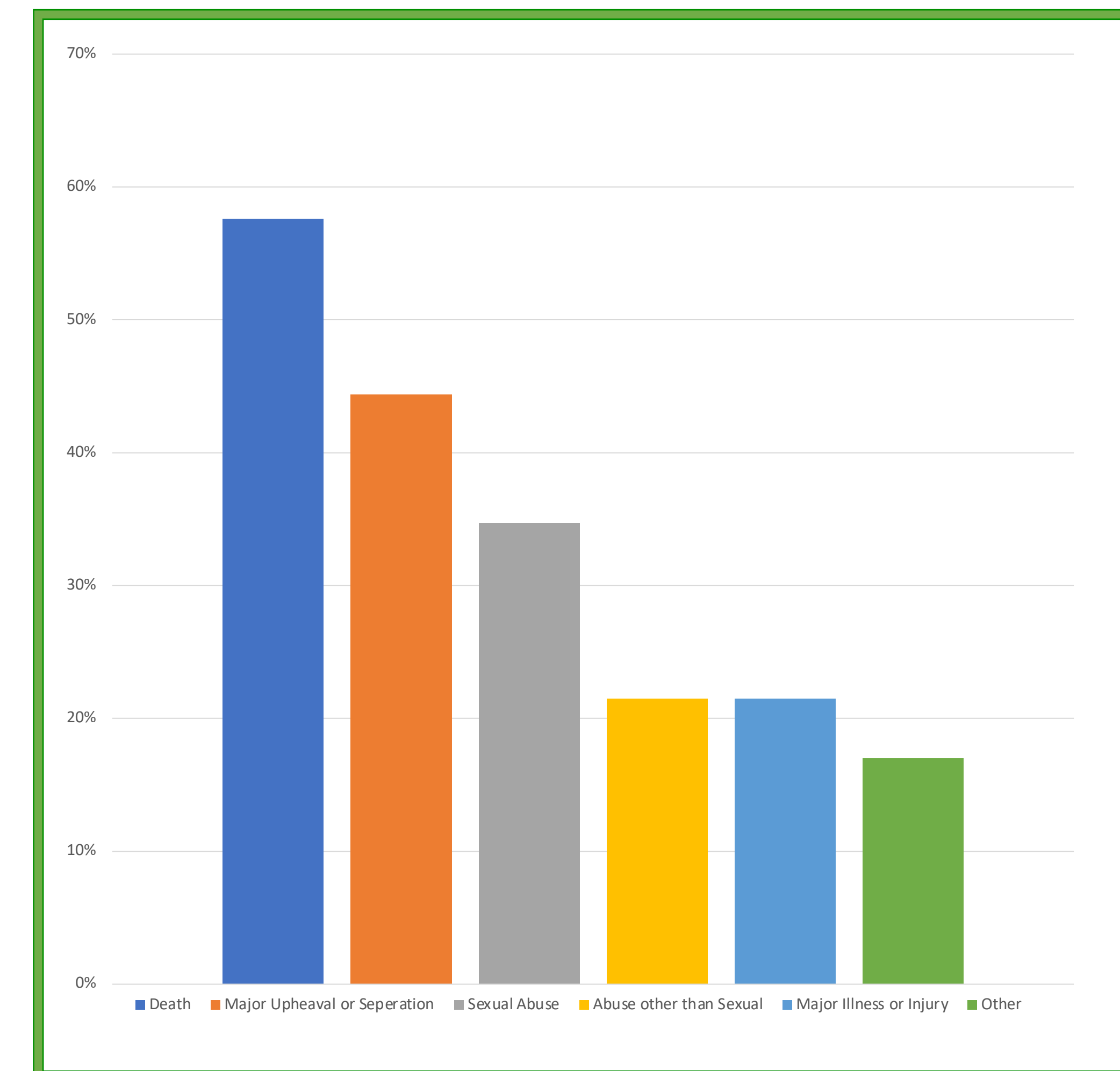


Figure 1. Type of Childhood Trauma Endorsed (n=119) by CTQ Response

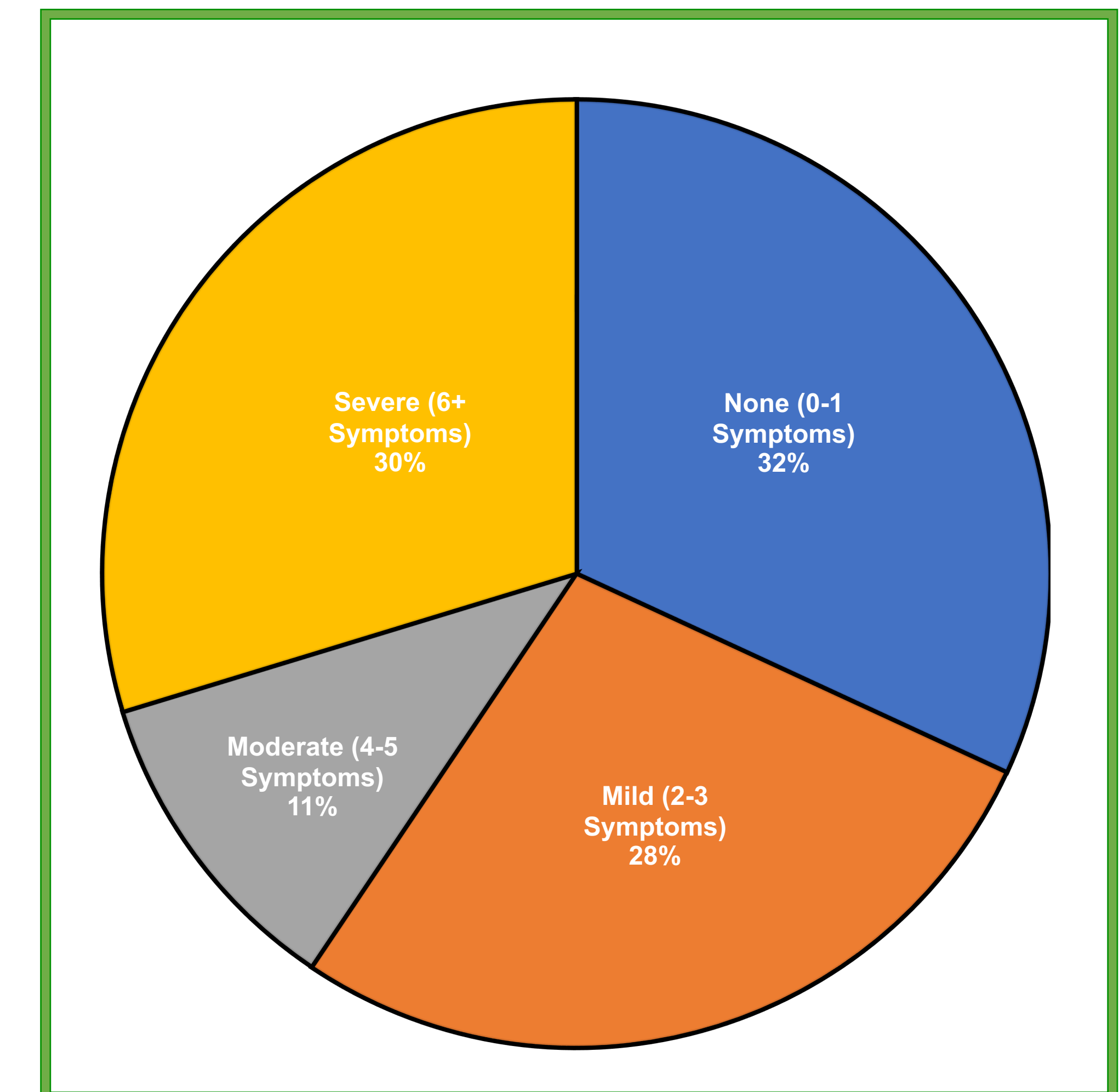


Figure 2. OUD Severity by DSM-5 Criteria (n=138)

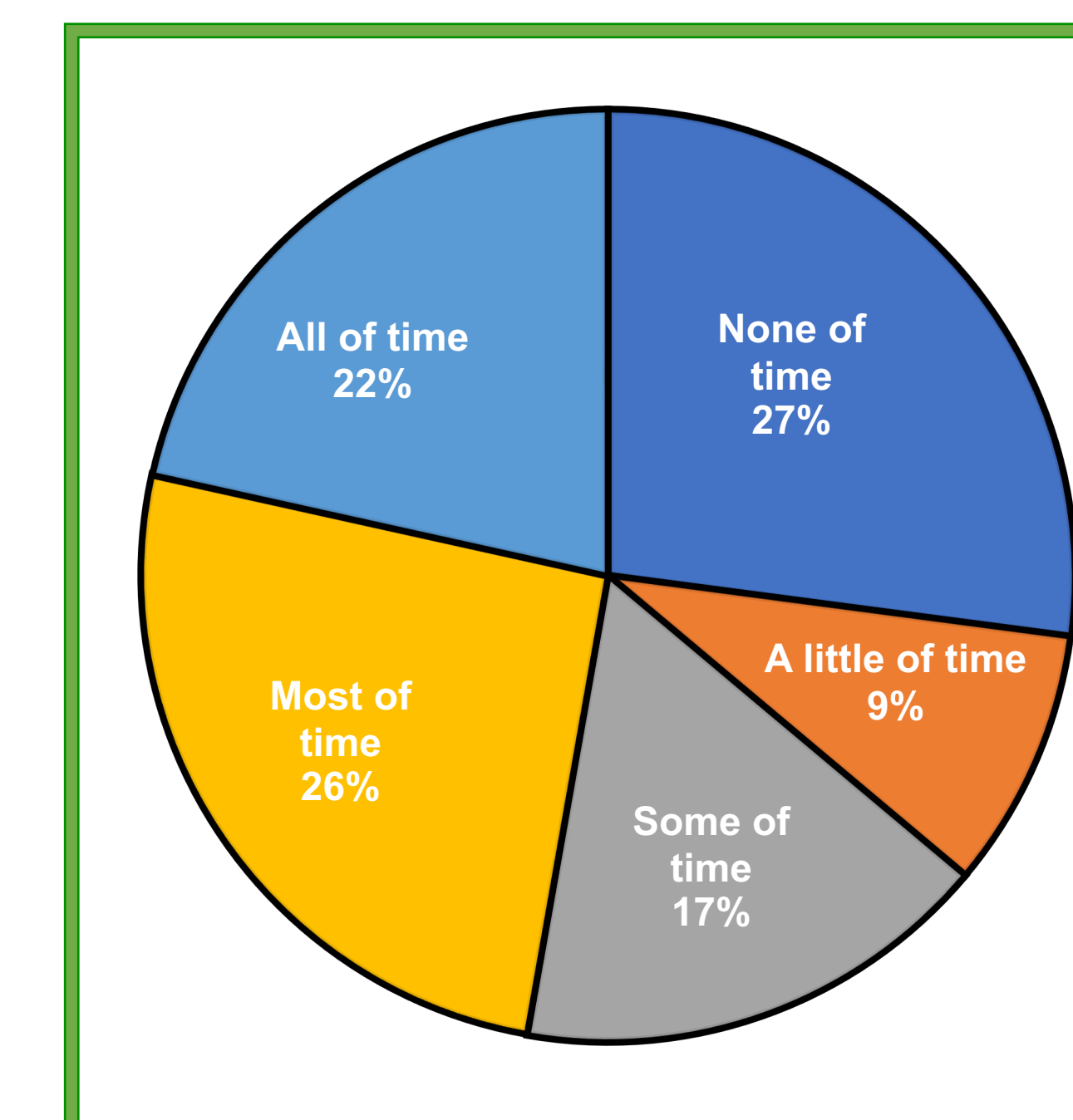


Figure 3. ENRICH Social Support Instrument (n=143) of Childhood Social Support

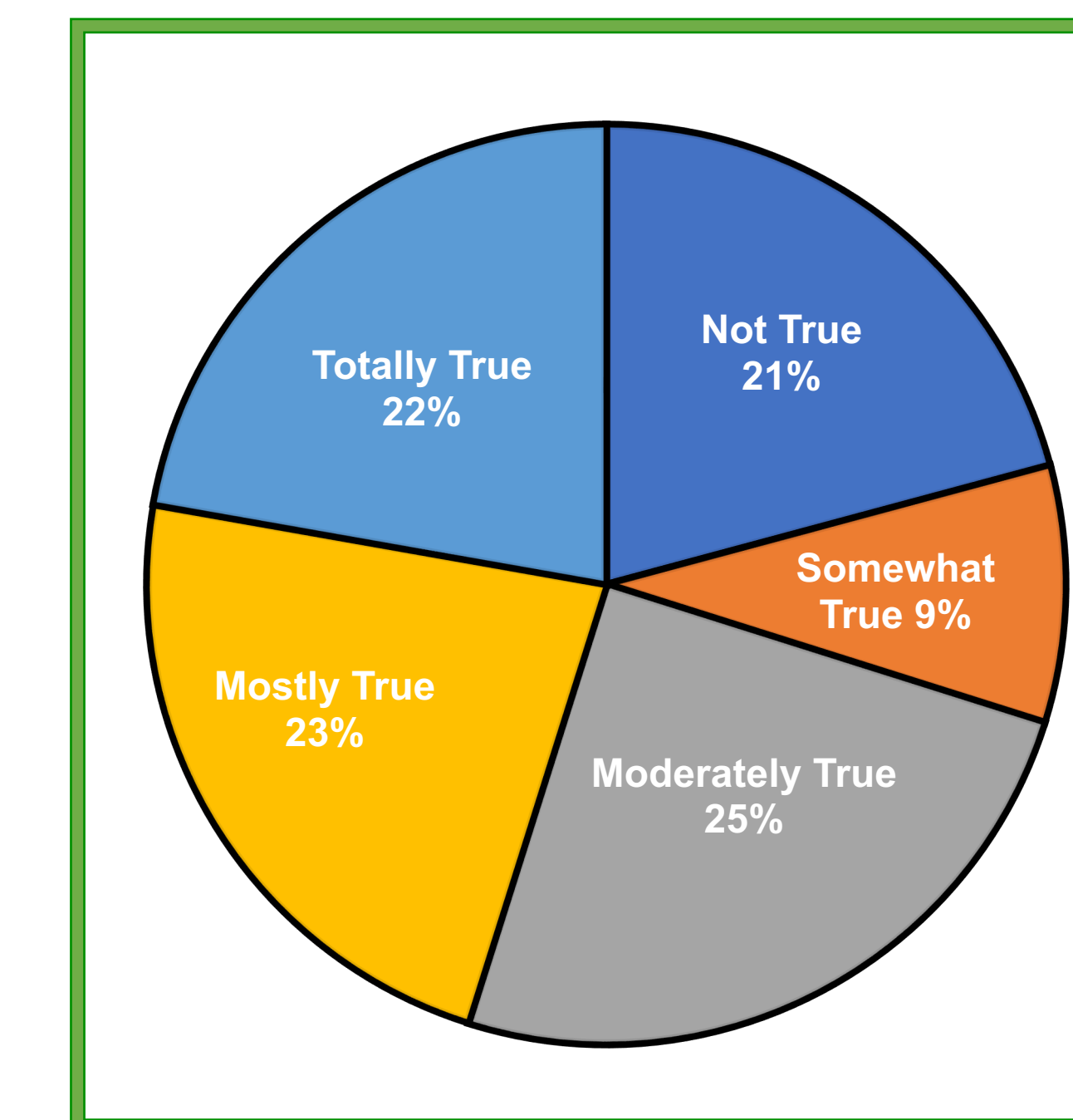


Figure 4. Religious Commitment Inventory-10 (n=144) of Childhood Religious Involvement

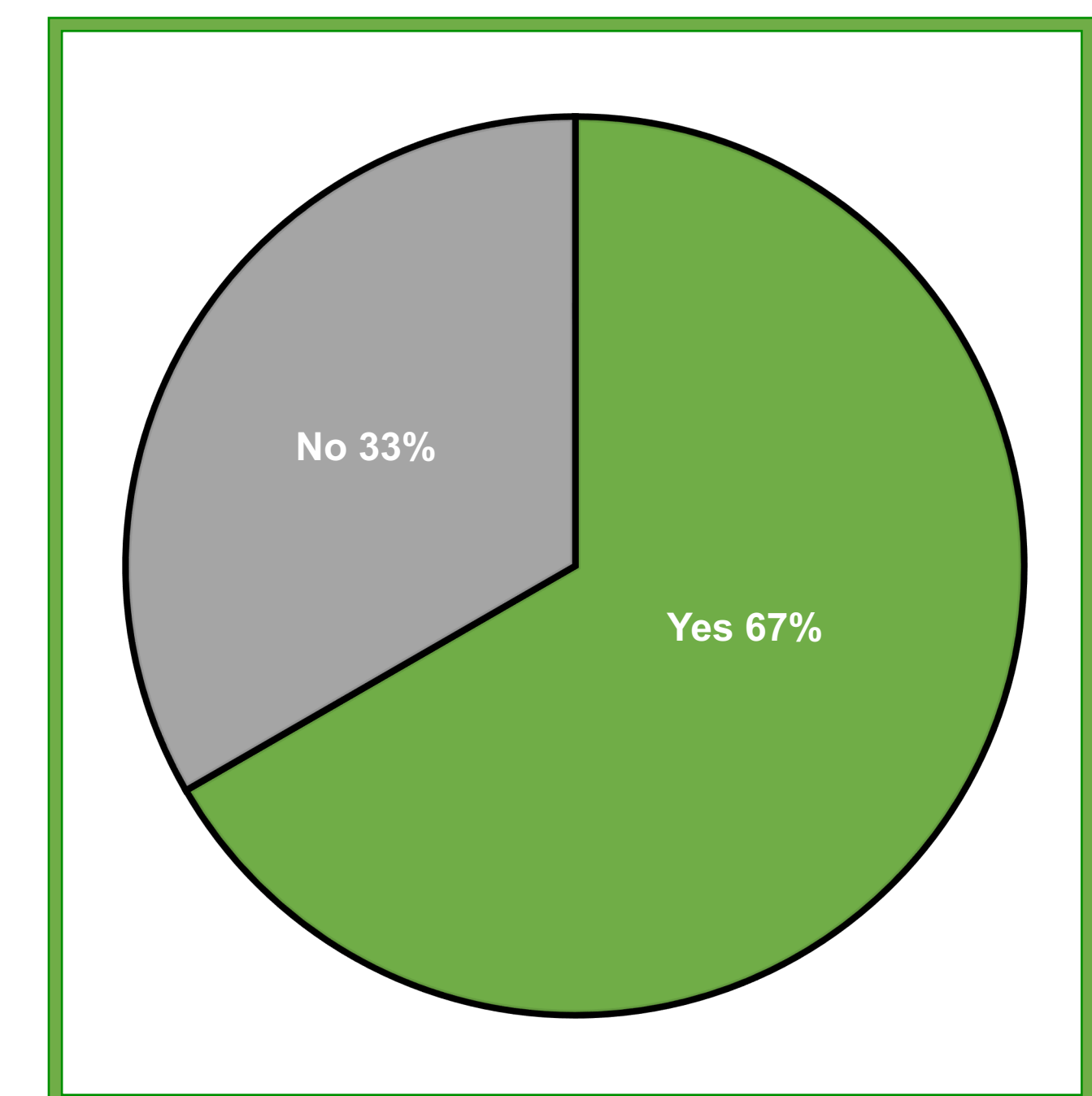


Figure 5. Sports Instrument (n=144) of Childhood Sports Involvement

- Participants on average initiated opioid use at age 21, and had a current OUD score of 3.5, corresponding to mild to moderate severity
- Participants had on average 2 traumatic events in childhood, the majority characterized as either a major upheaval or separation of parents, sexual abuse, or the death of a close friend or family member
- Most participants had mild to moderate levels of social support in childhood
- In a multiple regression analysis, there were no associations between social support, religious involvement, or sports participation in childhood with age of first opioid use or OUD severity.
- There was a significant association between OUD severity and age, gender, current domestic violence, depression, anxiety, and childhood trauma.
- Every 0.45 increase in CTQ score was associated with a 1 point increase in OUD severity

### CONCLUSION

In this analysis of the LOOP study, we established a cumulative effect of experienced childhood trauma on current OUD severity but found no association between childhood trauma and age of opioid initiation. Furthermore, we did not identify social support, religious involvement, or sport participation in childhood as mitigating factors in the relationship between childhood trauma and current OUD. These findings go beyond the association between childhood trauma and OUD prevalence, to demonstrate the linear connection between trauma in childhood and current experience and impact of drug use. These data suggest that addiction medicine practitioners must assess and intervene on experienced trauma as a vital aspect of optimal patient care. Further prospective research is required to understand if targeted interventions in trauma can reduce OUD severity. In addition, further work must be done to identify factors that can mitigate the relationship between trauma and OUD prevalence and severity, to guide prevention efforts.

### REFERENCES

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