Should I Stay or Should I Go? Determining Parental Preferences for School Severe Weather Decisions

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Background

A variety of research has been conducted on schools and their personnel across each of the four emergency management phases (i.e., Mitigation, Preparedness, Response, and Recovery) (Malmin et al. 2021), with viewpoints from relevant school staff during inclement events being well-documented (e.g., Hoekstra et al. 2014; Van Meter and Dixon 2014; Call and Coleman 2014; Mutch 2015; Tipler et al. 2018). While work has been conducted on familial preparedness, behaviors, awareness, and opinions during disasters/pandemics (e.g., Kubickek et al. 2008; Ronan et al. 2015; Hashikawa et al. 2018; Francis et al. 2022), to this author's knowledge, no studies have shed light on the opinions of parents on severe weather actions of schools, notably sheltering-in-place and early dismissal decisions. Schools have the authority to dictate and modify emergency operation plans but limiting or omitting parent input may inadvertently put children at risk. This study attempted to obtain parent preferences for their children on school days under a tornadic threat.

Objectives

- Determine where parents desire their child to shelter on school severe weather days and what factors influence their preferences.
- Evaluate guardians' perceptions of their homes and other structures to tornadic resistance.
- Gauge parents' confidence in school personnel and their satisfaction of communications during emergency events.

Methodology

A Qualtrics survey was distributed through Prolific, a web-based recruiter of participants. Surveys were sent to 500 parents/guardians of K-12 age children, living in the U.S. in one of 13 tornado prone states (i.e., AR, AL, GA, KY, LA, MS, OK, SC, TN, and TX).

Multinomial logistic regression with a stepwise selection process was utilized for analysis of each dismissal preference. Each independent variable was evaluated for inclusion in each model by significance ($p < .05$) or a significant confounding effect on other independent variables (i.e., a change in parameter estimates between models by 20% or more) (Bursac et al. 2008; Hosmer et al. 2013).

Results

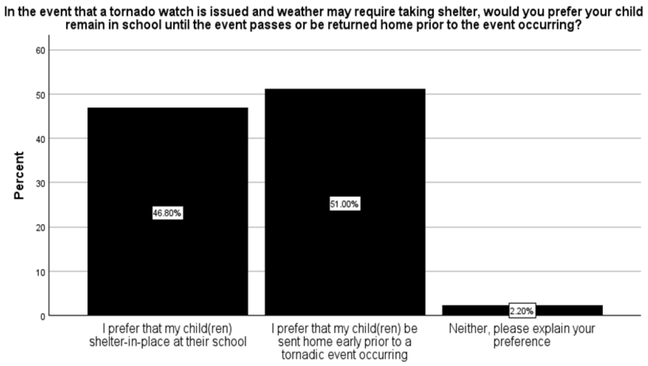


Figure 1. Where A Parent Wants their Child to Shelter on School Days for a Hypothetical Tornado Threat

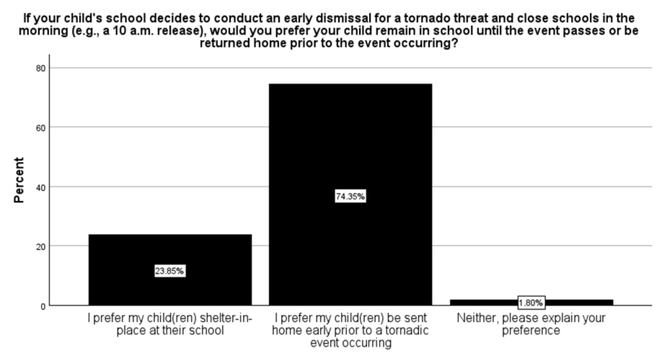


Figure 2. Parent Preference for a Morning Early Dismissal

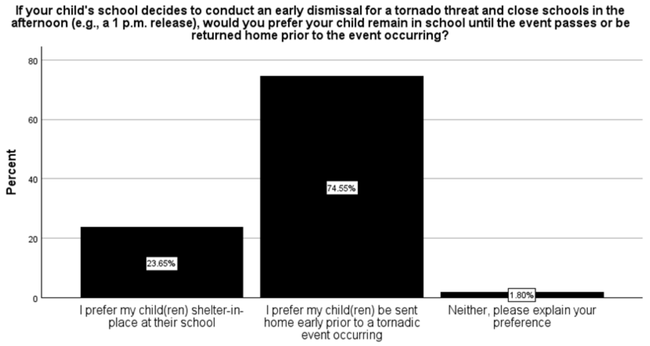


Figure 3. Parent Preference for an Afternoon Early Dismissal

Table 1.1 General Tornado Scenario - Six Variable Multivariable Model

						95% CI	
	Variable	Coeff.	Std. Err.	β	p	LB	UB
Remain in School	Intercept	-2.776	0.635		<.001		
	Confidence in Personnel	1.031	0.138	2.805	<.001	2.142	3.673
	Alt. Shelter Location	0.418	0.122	1.52	<.001	1.197	1.929
	Single Brick Home	-0.568	0.157	0.566	<.001	0.416	0.77
	School Building	0.578	0.155	1.783	<.001	1.316	2.416
	Comms during Normal Ops	-0.368	0.138	0.692	0.008	0.528	0.908
	People of Color	-0.897	0.228	0.408	<.001	0.261	0.637

Reference Category: Child(ren) be Sent Home

Table 1.2 Morning Release Scenario – Five Variable Multivariable Model

						95% CI	
	Variable	Coeff.	Std. Err.	β	p	LB	UB
Remain in School	Intercept	-2.948	0.646		<.001		
	Confidence in Personnel	0.937	0.156	2.552	<.001	1.88	3.465
	Parents at Home	0.372	0.158	1.451	0.018	1.066	1.976
	Single Brick Home	-0.707	0.163	0.493	<.001	0.359	0.679
	School Building	0.432	0.166	1.541	0.009	1.114	2.132
	Severe Comms	-0.341	0.14	0.711	0.015	0.54	0.936

Reference Category: Child(ren) be Sent Home

Table 1.3 Afternoon Release Scenario – Five Variable Multivariable Model

						95% CI	
	Variable	Coeff.	Std. Err.	β	p	LB	UB
Remain in School	Intercept	-3.481	0.675		<.001		
	Confidence in Personnel	0.898	0.154	2.455	<.001	1.815	3.321
	Strong Tornado Confidence	-0.364	0.112	0.695	0.001	0.558	0.866
	Alt. Shelter Location	0.294	0.133	1.342	0.027	1.034	1.743
	School Building	0.315	0.147	1.37	0.033	1.026	1.829
	Severe Comms	-0.417	0.141	0.659	0.003	0.499	0.869

Reference Category: Child(ren) be Sent Home

Summary and Future Work

- Parents' preferences as to where their children shelter was influenced heavily by the schools regarding their trust in personnel, perceptions of infrastructure, and dissemination of information.
- Additionally, perceptions of housing type, tornadic intensity, and actionable items like another place to shelter can sway parents to want their child to return home.
- Future work will be devoted to determining if students share the same preferences as their parents and what training, plans, and procedures bus drivers have when transporting students during early dismissals, particularly for those transferring students with disabilities.
- Additional research will also consider comparing the building codes of both schools and housing stock within a district to determine if sheltering in place at school or sending children back to their homes is the more appropriate, less harmful protocol.

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