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Bullying on the school bus: deleterious effects on public school bus drivers

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ABSTRACT

Bullying is a serious communication problem facing teachers, administrators, parents, and students alike. Although much research has examined bullying intervention and prevention efforts in schools, bullying on the bus has received little empirical attention, even though victimization regularly occurs in this school-related environment. The purpose of this study was to examine how bus drivers are affected by student bullying during their routes. Participants included 117 public school bus drivers who reported on victimization from students during their bus route and resulting driver outcomes. Results of path analyses revealed significant mediation models; the bullying of bus drivers had effects on driver outcomes (i.e. anxious driving, occupational self-efficacy, emotional exhaustion, and cynicism) indirectly through its effects on job stress. Moreover, results of conditional process analyses revealed that these mediated effects were moderated by years of bus driving experience (i.e. moderated mediation); the indirect effects on driver outcomes were stronger for more experienced drivers.

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Bus driver; bullying; victimization; burnout; job satisfaction; occupational self-efficacy; moderated mediation

Bullying is an international problem that has become endemic in all schools (Smith, 2012) and is a pressing communication issue (Pörhölä, Karhunen, & Rainivaara, 2006). No school is protected from incidents of student bullying and no location at school, despite direct adult supervision of that location or not, is completely secure from victimization (Perkins, Perkins, & Craig, 2014). Conventionally, much of the research on student bullying in educational contexts has been limited in focus by only examining face-to-face victimization occurring on school property (Rivers, Duncan, & Besag, 2007). This is unfortunate because bullying moves beyond the walls of each school; ample evidence suggests that students find ways to bully other students outside of school property including cyberbullying (Barlett & Coyne, 2014).

Nonetheless, bullying that does occur in formal school environments is not limited to hallways, classrooms, and the playground. Indeed, the school bus is another venue that provides students with opportunities for malice. Although empirical definitions of bullying vary (Sanders, 2004), the uniform definition of bullying include several criteria: (a) unwanted aggressive behavior that involves (b) an observed or perceived power imbalance and is (c) repeated or highly likely to be repeated and may (d) inflict physical,

psychological, social, or educational harm (Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014). Bullying includes aggressive behaviors ranging from isolation to insults to physical violence (Mynard & Joseph, 2000). Given this definition, it is unsurprising that bullying occurs on the bus most days. Perkins et al. (2014) found that approximately 20% of middle-school students experienced physical abuse and hurtful name calling on the bus in the last 30 days; boys and girls were equally likely to be victimized as student riders.

Recently, national outrage has resulted from media reports of bullying on the bus. For instance, in Gresham Oregon, a 12-year-old boy had ink and hand sanitizer rubbed in his face by bullies and was threatened to be raped if he reported the incident (Douglass, 2015). In another instance in Appomattox County, Virginia, bus video footage was released of two 15-year-old boys communicating racial and sexual epithets to a 10-year-old child with special needs; these bullies restrained the child on the bus so they could burn his skin with a hot cigarette lighter (Hibbard, 2012). These examples of bullying incidents are difficult to stomach, and although they may be two of the more graphic cases, they represent the ease in which potential harm can occur on the school bus and remind us that bullying on the bus is an acute concern. That said, bullying on the bus is not limited to student-to-student victimization; in fact, adults on the bus are not exempt from student mistreatment.

Consider, for example, Karen Huff Klein, a former bus monitor who was 68 years old at the time she was bullied by several middle-school students during her supervised ride. This famous case of victimization was caught on video and went viral, resulting in over \$700,000 of donations from sympathetic viewers, ultimately funding the Karen Klein Anti-Bullying Foundation (Thompson, 2013). Below are some verbal bullying excerpts from the Karen Klein bus incident caught on video (the full transcripts available at bus-monitorbullied.blogspot.com/):

‘Karen you’re freaking ugly.’ ‘I’ll make a poster and I’ll write ‘Fat Bitch’ under it.’ ‘Karen, where’d you get that herpes?’ ‘Why do you have so many wrinkles?’ ‘Look at her fucking ugly ass ears.’ ‘She’s probably gonna pick out which kid she’s gonna rape next.’ ‘Look at her fucking stomach.’ ‘If I stabbed you in the stomach, my knife would fucking go through you like butter, ‘cause it’s all fucking lard.’

These verbal assaults on Klein had her in tears. Clearly, the bus ride provides yet another school-related context in which both students and bus drivers/aides/monitors can be victimized in a confined space. Traditionally, bullying researchers do not examine how students victimize adults as targets in educational and organizational contexts. This may be the case because the power disparity is unclear when studying adults as targets and adolescent students as perpetrators; typically, researchers examine students bullying each other at school or adults bullying each other at work (Pörhölä et al., 2006). However, by definition, Lutgen-Sandvik, Tracy, and Alberts (2007) noted that a power disparity exists when ‘the target must, for one reason or another, feel unable to stop or prevent the abuse’ (p. 841). Lutgen-Sandvik and Fletcher (2013) noted that ‘anyone can be targeted by bullies at work’ (p. 355) and Lutgen-Sandvik, Namie, and Namie (2009) noted that bullying is ‘marked by a difference in power between actors and targets that arises as a result of ongoing harassment’ (p. 31). In line with these considerations, it is

possible for bus drivers to be a target of bullying for student riders when there is a perceived power imbalance, much like aforementioned Karen Klein incident.

Although bullying on the bus is unacceptable in all forms and poses a real safety risk to all passengers (including the bus driver), this topic has received scant empirical attention even though 'more than 24 million students begin and end their school days on buses' (Harrison, 2005, p. 39). Most of the research on bullying on the bus has examined student-to-student victimization without considering how the bus drivers are affected, even though 'they are called on to deal with incidents of harassment, bullying, and other forms of violence during the ride' (deLara, 2008, p. 49). Therefore, the main purpose of our study was to examine the effects of student bullying on bus drivers.

Bullying on the bus

Generally, students are more prosocial on the bus than they are aggressive (Galliger, Tisak, & Tisak, 2009), but bullying and harassment do occur between students on any given bus route (Allen, Young, Ashbaker, Heaton, & Parkinson, 2003; Goldman & Peleg, 2010). In a study analyzing video tapes of bullying on the school bus, Raskauskas (2005) observed an average of two student bullying incidents per bus ride, with significantly more bullying occurring on the ride home from school than on the way to school. These bullying episodes lasted 2.86 minutes on average and up to 15 minutes with 49% of the incidents including physical bullying (i.e. hitting, kicking, shoving, grabbing of property) and 36% of the incidents including verbal bullying (i.e. name calling and taunting). Buses that were full of students yielded more frequent and severe bullying incidents than buses that were relatively empty.

deLara (2008) interviewed public school bus drivers and 90% of the drivers observed students engaging in verbal bullying, psychological intimidation, physical bullying, fighting, and sexual harassment on their buses; 30% of the drivers reported that bullying occurred 'often' on their bus. These estimates of student-to-student bullying on the bus are troubling because passenger-related distractions pose a real risk to the safety of all riders (Salmon, Young, & Regan, 2011). Such distractions are likely to cause stress and anxiety for bus drivers when they observe student victimization during a route. Therefore, we offered the first and second hypotheses:

H1: Observed student-to-student bullying (i.e. physical victimization, social manipulation, verbal victimization, and property attacks) on the bus will correlate positively with bus drivers' anxiety about driving.

H2: Observed student-to-student bullying (i.e. physical victimization, social manipulation, verbal victimization, and property attacks) on the bus will correlate positively with bus drivers' job stress.

Students are not the only victims of bullying on the bus. As mentioned earlier, bus drivers can also be victims of workplace bullying. Informed by the communication research of Lutgen-Sandvik and colleagues, workplace bullying is described by targets as abusive, imprisoning, unwanted, stressful, and evil, to name a few employee descriptions (Lutgen-Sandvik & McDermott, 2008, 2011; Lutgen-Sandvik & Tracy, 2012; Lutgen-Sandvik et al., 2009; Tracy, Lutgen-Sandvik, & Alberts, 2006). Research reveals that the bullying of employees frequently continues because upper management does nothing to

stop it (Lutgen-Sandvik, 2006; Namie & Lutgen-Sandvik, 2010). Lutgen-Sandvik and colleagues' research suggests that bystanders, who are not directly targeted, still experience fear and stress after witnessing bullying (Lutgen-Sandvik & Fletcher, 2013). The harm created by workplace bullying is extensive and enduring, affecting employees' identities, sense-making abilities, mental health, and job performance (Lutgen-Sandvik & Tracy, 2012). Unfortunately, Glasø, Bele, Nielsen, and Einarsen (2011) found that 11% of bus drivers are victims of bullying by coworkers, who report less job engagement and job satisfaction and more turnover intention.

Cases of bullying popularized by the media suggest that students victimize their bus drivers using the same bullying behaviors that they use with other students. Yet, the empirical evidence is lacking and has yet to focus on how students victimize their bus drivers and only on how students victimize each other. This is surprising when considering public knowledge of bus driver bullying (e.g. the case of Karen Klein who was verbally and physically bullied by students as a bus aid; Thompson, 2013).

Because bullying at work undoubtedly increases stress on the job (e.g. Hauge, Skogstad, & Einarsen, 2010), we predict that when bus drivers are bullied by students during their routes (e.g. hit, verbally abused, objects thrown at them, spit on, sexually harassed), they experience work-related stress as a response. Job stress is hazardous for bus drivers because it increases the risk of a vehicular accident (Matthews et al., 1998). Moreover, decades of empirical research suggest that job stress serves as a mediator between the workplace environment and physical and psychological outcomes for bus drivers (for a review, see Tse, Flin, & Mearns, 2006). Therefore, we wanted to examine hypothesized mediation models for the effects of bus driver bullying on workplace outcomes through job stress (i.e. an adverse reaction to excessive pressure) as a mediator. To examine mediation models for job stress, we selected four workplace outcomes based on previous research examining stressful workplace environments for bus drivers (see Chen & Cunradi, 2008; Glasø et al., 2011) and a recent meta-analysis that identified outcomes of exposure to bullying at work (Nielsen & Einarsen, 2012). These workplace outcomes were (a) anxious driving (i.e. feeling worried or disturbed about mistakes or potential accidents), (b) occupational self-efficacy (i.e. feeling prepared and confident for the demands of being a bus driver), (c) job satisfaction (i.e. finding enjoyment and feeling satisfied with the job as a bus driver), and (d) burnout (i.e. emotional exhaustion: a lack of energy and emotional resources; professional efficacy: feeling personally accomplished; cynicism: feeling distant and indifferent about the job). The mediation models hypothesizing bullying effects on workplace outcomes indirectly through job stress are offered (see Figure 1):

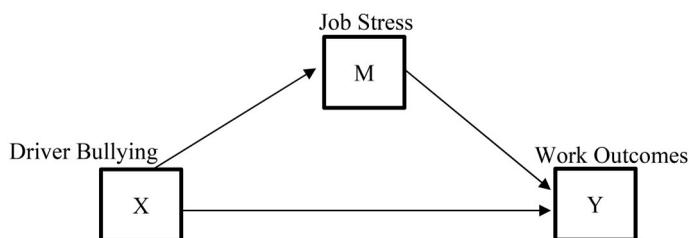


Figure 1. Conceptual models for simple mediation analyses (H3–H6).

Note: OLS path analysis.

H3: The effect of bus driver bullying on anxious driving is mediated by job stress.

H4: The effect of bus driver bullying on occupational self-efficacy is mediated by job stress.

H5: The effect of bus driver bullying on job satisfaction is mediated by job stress.

H6: The effect of bus driver bullying on burnout: (a) emotional exhaustion, (b) professional efficacy, and (c) cynicism, is mediated by job stress.

Although hypotheses three through six test indirect effects of bus driver bullying on workplace outcomes through job stress, we were also interested in examining if these mediated effects were a function of years of bus driving experience. That is, in its simplest form, we were interested in determining if drivers with varying levels of driving experience were affected differently by bullying (i.e. moderated mediation hypotheses; Preacher, Rucker, & Hayes, 2007). We wanted to test conditional process models because years of driving experience serves as an important predictor for driver-related effects (see Goh, Currie, Sarvi, & Logan, 2014); for instance, experienced bus drivers cause fewer accidents (Dorn & Wählberg, 2008). Therefore, we examined moderated mediation models in order to determine if significant indirect effects uncovered through our hypothesis testing (H3–H6) varied systematically as a function of driving experience. See Figure 2 for the conceptual model guiding the moderated mediation tests.

A hypothesis of moderated mediation is offered:

H7: The indirect effects (i.e. mediated by job stress) of bus driver bullying on workplace outcomes will vary systematically as a function of years of bus driving experience (i.e. moderation).

Finally, in line with the empirical evidence that driving a bus can be a stressful experience, research has examined how drivers cope with the job stress after work and how this helps avoid potential burnout on the job (Restrepo, 2013). As Tse et al. (2006) pointed out, ‘the lifestyle of the bus driver at home and at work is inextricably linked to his/her physical and psychological health’ (p. 103). Chen and Cunradi (2008) examined the coping behaviors of stressed drivers including exercise, talking to friends, eating, smoking, disengagement, and denial. They found a strong relationship between job stress and burnout for drivers despite the coping behaviors used. In fact, drivers who used disengagement-denial and escapist coping strategies in response to their stress reported more burnout. Because of these findings, we considered potential coping strategies of bus drivers using Sonnentag and Fritz’s (2007) scholarship on job stress recovery during leisure time. These scholars discovered

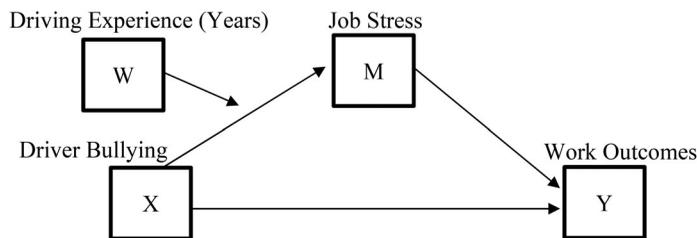


Figure 2. Conceptual models for first stage moderated mediation analyses (H7).

Note: OLS conditional process analysis.

that when employees experience stressful events at work, they unwind and recuperate afterward using four coping styles including psychological detachment (i.e. not thinking about work and distancing oneself), relaxation (i.e. enjoying leisure time in a relaxing way), mastery (i.e. learning new things and seeking new challenges), and control (i.e. deciding how to use one's free time in the way he/she wants). Two research questions are proposed to determine if coping plays a significant role in drivers' experiences of bullying and responses to a stressful event:

RQ1: Is bus driver bullying correlated with drivers' coping styles (i.e. psychological detachment, relaxation, mastery, control)?

RQ2: Are bus drivers' coping styles (i.e. psychological detachment, relaxation, mastery, control) correlated with job stress?

Method

Participants

Participants were 117 public school bus drivers from a school district in the state of Virginia. The sample consisted of 42 male and 74 female drivers (1 sex not identified) whose ages ranged from 25 to 85 years ($M = 51.09$ years, $SD = 11.83$). Participants varied in their driving experience from 1 year up to 53 years of driving a school bus ($M = 10.12$ years, $SD = 9.87$). Participants' bus driving hours per day ranged from 3 to 8 hours ($M = 5.08$ hours, $SD = 2.72$). Although the participants drove multiple routes per day, 28.2% drove pre-kindergarten students ($n = 33$), 89.7% ($n = 105$) drove elementary school students, 70.9% ($n = 83$) drove middle-school students, and 75.2% ($n = 88$) drove high school students to and from school. There is some overlap with the reported grade levels of passengers because most bus drivers transported students from several grades a day during different scheduled times. Twelve ($n = 12$) drivers did not complete a high school education, 53 drivers were high school graduates, 37 drivers completed some college, and 14 drivers were college graduates (1 driver did not report educational level). The majority of the participants identified as white/Caucasian ($n = 105$) with the other participants identifying as Asian American ($n = 1$), black/African American ($n = 5$), Hispanic/Latino ($n = 3$), and Native American ($n = 2$). One individual did not identify his/her race.

Procedures

After obtaining Institutional Review Board approval, purposive sampling was used to recruit participants from a large school district in Virginia. Participation in this study was completely anonymous and voluntary. After providing consent, participants were asked to complete a paper-based survey which was administered by the supervisor of driver operations for this school district. Participants completed the survey off-site and returned the survey to maintain anonymity. The survey included measures to operationalize bus driver bullying, observed student-to-student bullying (i.e. physical victimization, social manipulation, verbal victimization, damage to property), workplace coping styles (i.e. psychological detachment, relaxation, mastery, control), and workplace outcomes (i.e. anxious driving, occupational self-efficacy, job stress, job satisfaction, and burnout: emotional exhaustion, professional efficacy, cynicism).

Measurement

Bus driver bullying. Because no measure exists to specifically operationalize the frequency in which bus drivers are victimized by student passengers, 20 items were derived from several bullying measures including the Retrospective Bullying Questionnaire (Schäfer et al., 2004), AAUW Sexual Harassment Survey (American Association of University Women, 2001), Adolescent Peer Relations Instrument (Parada, 2000), the Illinois Bully Scale (Espelage & Holt, 2001), and the California Bullying Victimization Scale (Felix, Sharkey, Green, Furlong, & Tanigawa, 2011). The 20 items¹ reflect a wide array of potential victimization experiences for bus drivers (Raskauskas, 2005). The Likert response format for these items ranged from never (1) to most days (5). The summed scale yielded a Cronbach's alpha of .92 ($M = 26.91$, $SD = 9.28$).

Student to student bullying. Bus drivers reported on observed student-to-student bullying behaviors on their bus by completing the Multidimensional Peer-Victimization Scale (Mynard & Joseph, 2000). This 16-item measure assesses four types of student bullying (four subscales, four items each): physical victimization (e.g. 'punch other students'), social manipulation (e.g. 'try to make other students turn against each other'), verbal victimization (e.g. 'make fun of other students for some reason'), and attacks on property (e.g. 'deliberately damage the property of other students'). A Likert-type response format was used ranging from never (1) to most days (5). Cronbach's alphas for the four subscales were: physical victimization ($\alpha = .84$; $M = 6.86$, $SD = 2.58$), social manipulation ($\alpha = .83$; $M = 8.44$, $SD = 3.63$), verbal victimization ($\alpha = .93$; $M = 9.45$, $SD = 4.28$), and attacks on property ($\alpha = .87$; $M = 6.66$, $SD = 3.04$).

Coping styles. Coping styles were operationalized with the Recovery Experiences Measure (Sonnentag & Fritz, 2007). This measure is 16 items and consists of 4 subscales that operationalize how employees unwind and recover from work during leisure time. These four subscales (four items each) include psychological detachment (e.g. 'I forget about work'), relaxation (e.g. 'I take time for leisure'), mastery (e.g. 'I seek out intellectual challenges,' and control (e.g. 'I decide my own schedule'). These items use a semantic differential response format ranging from (1) I do not agree at all to (5) I fully agree. Cronbach's alphas for the four subscales were: psychological detachment ($\alpha = .81$; $M = 11.72$, $SD = 4.11$), relaxation ($\alpha = .91$; $M = 14.46$, $SD = 3.96$), mastery ($\alpha = .90$; $M = 13.50$, $SD = 4.05$), and control ($\alpha = .84$; $M = 16.40$, $SD = 3.39$).

Anxious Driving. Anxiety experienced while driving was measured using four items from the Anxious Driving Subscale from the Bus Driver Risk Index (Dorn, Stephen, Wählberg, & Gandolfi, 2010). These items (e.g. 'I am disturbed by thoughts of having an accident') used a Likert response format ranging from (1) strongly disagree to (5) strongly agree. The obtained Cronbach's alpha for the summed measure was .75 ($M = 8.57$, $SD = 3.10$).

Occupational Self-Efficacy. Self-efficacy about bus driving was measured using the Short Version of the Occupational Self-Efficacy Scale (Rigotti, Schyns, & Mohr, 2008). This measure consists of six items (e.g. 'I can remain calm when facing difficulties 'as a bus driver' because I can rely on my abilities') and used a Likert response format ranging from (1) strongly disagree to (5) strongly agree. The obtained Cronbach's alpha for the summed measure was .83 ($M = 24.89$, $SD = 3.26$).

Job stress. Job-related stress was measured using Netemeyer, Maxham, and Pullig's (2005) Job Stress Measure. This measure is four items (e.g. 'At the end of the day, my

job leaves me stressed out.’) and used a Likert response format ranging from (1) strongly disagree to (5) strongly agree. The obtained Cronbach’s alpha for the summed measure was .83 ($M = 7.44$, $SD = 3.06$).

Job satisfaction. Satisfaction at work was measured using the Brief Index of Affective Job Satisfaction (BIAJS; Thompson & Phua, 2012). The BIAJS is four items (e.g. ‘I like my job better than the average person’) and used a Likert response format ranging from (1) strongly disagree to (5) strongly agree. The obtained Cronbach’s alpha for the summed measure was .86 ($M = 15.99$, $SD = 2.67$).

Burnout. Feelings of burnout were measured with the Maslach Burnout Inventory – General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). This measure is 16 items and operationalizes burnout across 3 subscales: emotional exhaustion (5 items, e.g. ‘I feel emotionally drained from my work “as a bus driver”’), professional efficacy (6 items, e.g. ‘I can efficiently solve problems that arise “while driving my bus”’), and cynicism (5 items, e.g. ‘I have become less enthusiastic about my work “as a bus driver”’). The MBI-GS uses a 6-point Likert-type response format ranging from (0) never to (6) every day. Cronbach’s alphas for the three subscales were: emotional exhaustion ($\alpha = .92$; $M = 5.98$, $SD = 5.90$), professional efficacy ($\alpha = .73$; $M = 28.67$, $SD = 6.80$), and cynicism ($\alpha = .76$; $M = 6.81$, $SD = 5.90$).

Results

Intercorrelations among variables are presented in Table 1.

Hypotheses one and two predicted that bus driver observations of student-to-student bullying (i.e. physical victimization, social manipulation, verbal victimization, and property attacks) would correlate positively with bus drivers’ anxiety while driving and job stress. Hypothesis one received partial support as anxious driving was correlated positively with observed physical victimization ($r = .26$, $p < .001$), but hypothesis two received full support as job stress was correlated positively with observed physical victimization ($r = .36$, $p < .001$), social manipulation ($r = .31$, $p < .001$), verbal victimization ($r = .31$, $p < .001$), and attacks on property ($r = .37$, $p < .001$).

Hypotheses three, four, five, and six predicted that the student bullying of bus drivers would affect their workplace outcomes through the stress that is created on the job. To test these hypotheses, mediation analyses were conducted using ordinary least squares path analysis, treating job stress as the mediator for all analyses.

Six mediation analyses were performed in PROCESS (Hayes, 2013) using 10,000 bootstrap samples with bias-corrected bootstrap confidence intervals to examine the indirect effects of bus driver bullying on driver outcomes (i.e. anxious driving, occupational self-efficacy, job satisfaction, emotional exhaustion, professional efficacy, and cynicism) through job stress. Estimates of indirect effect sizes were reported using R^2 -Mediation (R^2_{med} ; Fairchild, MacKinnon, Toborga, & Taylor, 2009), which estimates the proportion of variance in the dependent variable explained by the indirect effect, and Kappa-squared (κ^2 ; Preacher & Kelly, 2011), which determines how large the indirect effect is relative to the maximum value it could be given the variability in the data (see Hayes, 2013 for a detailed discussion of both effect sizes). General support was found for the mediation models. See Table 2 for a summary of unstandardized path coefficients and standard errors for a , b , and c' paths.

Table 1. Correlations between variables (bus driver reports).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Bus driver victimization	–														
<i>Student to student bullying</i>															
2. Physical victimization	.55†	–													
3. Social manipulation	.60†	.71†	–												
4. Verbal victimization	.62†	.64†	.77†	–											
5. Attacks on property	.70†	.68†	.66†	.66†	–										
<i>Coping</i>															
6. Psychological detachment	–.13	–.21*	–.21*	–.20*	–.20*	–									
7. Relaxation	–.07	–.07	–.07	–.06	–.06	.41†	–								
8. Mastery	.22*	.23*	.23*	.10	.22*	.19*	.42†	–							
9. Control	.01	–.10	–.10	–.06	.04	.37†	.34†	.33	–						
<i>Workplace outcomes</i>															
10. Anxious driving	.27**	.26†	.15	.12	.15	–.05	–.05	–.03	–.09	–					
11. Occupational self-efficacy	–.18*	–.08	–.04	–.14	–.09	.13	.32†	.33†	.26**	–.34†	–				
12. Job stress	.46†	.36†	.31†	.31†	.37†	–.14	–.16	–.11	–.14	.51†	–.30**	–			
13. Job satisfaction	–.27**	–.08	–.06	–.14	–.22*	–.04	.10	.24**	.05	–.26**	.66†	–.25**	–		
<i>Burnout</i>															
14. Emotional exhaustion	.45†	.32†	.47†	–.37†	.32†	–.07	–.10	–.07	–.18	.40†	–.33†	.58†	–.34†	–	
15. Professional efficacy	.05	.05	.17	.16	.17	–.15	–.05	.18	.03	–.12	.23*	–.13	.26**	–.08	–
16. Cynicism	.20*	.13	.19*	.20*	.10	.16	.06	–.01	.00	.29**	–.30**	.33†	–.42†	.57†	–.25**

Note: Two-tailed Pearson correlations.
 * $p < .05$.
 ** $p < .01$.
 † $p < .001$.

A path model testing H3 revealed that the effect of driver bullying on anxious driving was mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = .0743$, $ab_{cs} = .2230$; $R^2_{med} = .07$, $\kappa^2 = .21$) was entirely above zero

Table 2 Simple mediation models and unstandardized model coefficients (H3–H6).

Antecedent		Consequent						
		M (job stress)			Y (anxious driving)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1517	.027	<.001	c'	.0149	.030	.624
M (job stress)		–	–	–	b	.4897	.092	<.001
Constant	i ₁	3.3708	.780	<.001	i ₂	4.5151	.831	<.001
$R^2 = 0.212$				$R^2 = 0.256$				
$F(1, 114) = 30.736, p < .001$				$F(2, 113) = 19.466, p < .001$				
Antecedent		Consequent						
		M (job stress)			Y (occupational self-efficacy)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1523	.028	<.001	c'	–.0199	.035	.574
M (job stress)		–	–	–	b	–.2850	.107	.009
Constant	i ₁	3.3421	.785	<.001	i ₂	27.5482	.965	<.001
$R^2 = 0.214$				$R^2 = 0.090$				
$F(1, 113) = 30.712, p < .001$				$F(2, 112) = 5.552, p < .01$				
Antecedent		Consequent						
		M (job stress)			Y (job satisfaction)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1524	.027	<.001	c'	–.0574	.029	.050
M (job stress)		–	–	–	b	–.1409	.088	.113
Constant	i ₁	3.3354	.776	<.001	i ₂	18.5837	.791	<.001
$R^2 = 0.214$				$R^2 = 0.095$				
$F(1, 115) = 31.226, p < .001$				$F(2, 114) = 5.952, p < .01$				
Antecedent		Consequent						
		M (job stress)			Y (emotional exhaustion)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1524	.027	<.001	c'	.1491	.053	.006
M (job stress)		–	–	–	b	.9044	.161	<.001
Constant	i ₁	3.3354	.776	<.001	i ₂	–4.7532	1.4411	<.001
$R^2 = 0.214$				$R^2 = 0.377$				
$F(1, 115) = 31.226, p < .001$				$F(2, 114) = 34.439, p < .001$				
Antecedent		Consequent						
		M (job stress)			Y (professional efficacy)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1542	.028	<.001	c'	.1041	.077	.177
M (job stress)		–	–	–	b	–.4306	.232	.066
Constant	i ₁	3.2539	.786	<.001	i ₂	29.0500	2.073	<.001
$R^2 = 0.219$				$R^2 = 0.033$				
$F(1, 112) = 31.369, p < .001$				$F(2, 111) = 1.874, p = .158$				
Antecedent		Consequent						
		M (job stress)			Y (cynicism)			
		Coeff.	SE	p		Coeff.	SE	p
X (driver bullying)	a	.1490	.028	<.001	c'	.0383	.064	.549
M (job stress)		–	–	–	b	.5787	.194	.004
Constant	i ₁	3.4202	.791	<.001	i ₂	1.4822	1.7454	.398
$R^2 = 0.212$				$R^2 = 0.111$				
$F(1, 111) = 28.834, p < .001$				$F(2, 110) = 6.874, p < .01$				

(.0410 to .1239). There was no evidence that driver bullying had a direct effect on anxious driving independent of its effect on job stress ($c' = .0149, p = .62$).

A path model testing H4 revealed that the effect of driver bullying on occupational self-efficacy was mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = -.0434, ab_{cs} = -.1246; R^2_{med} = .03, \kappa^2 = .11$) was entirely below zero ($-.0921$ to $-.0055$). There was no evidence that driver bullying had a direct effect on anxious driving independent of its effect on job stress ($c' = -.0199, p = .57$).

A path model testing H5 revealed that the effect of driver bullying on job satisfaction was not mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = -.0215, ab_{cs} = -.0742$) included zero ($-.0603$ to $.0107$). Driver bullying had a direct effect on job satisfaction on job stress ($c' = -.0574, p = .05$).

A path model testing H6a revealed that the effect of driver bullying on emotional exhaustion was mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = .1378, ab_{cs} = .2168; R^2_{med} = .16, \kappa^2 = .22$) was entirely above zero ($.0799$ to $.2279$). Driver bullying also had a direct effect on anxious driving independent of its effect on job stress ($c' = .1491, p = .006$).

A path model testing H6b revealed that the effect of driver bullying on professional efficacy was not mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = -.0664, ab_{cs} = -.0916$) included zero ($-.1616$ to $.0070$). There was no evidence that driver bullying had a direct effect on professional efficacy either ($c' = .1041, p = .18$).

A path model testing H6c revealed that the effect of driver bullying on cynicism was mediated by job stress. The bias-corrected bootstrap confidence interval for the indirect effect ($ab = .0862, ab_{cs} = .1368; R^2_{med} = .04, \kappa^2 = .13$) was entirely above zero ($.0231$ to $.1826$). There was no evidence that driver bullying had a direct effect on cynicism independent of its effect on job stress ($c' = .0383, p = .55$).

To test H7, first-stage moderated mediation models (i.e. path-*a* moderated) were calculated (see [Figure 2](#)) for bus driver bullying (for only four of the six models with significant mediation) on workplace outcomes (i.e. anxious driving, occupational self-efficacy, emotional exhaustion, and cynicism).

Moderated mediation was determined using Hayes (2015) index of moderated mediation. The index of moderated mediation reveals two important statistical findings when the bootstrapped confidence interval of the index does not include zero. The first finding is a formal test that the mediated effect varies systemically as a function of the moderator; 'if the confidence interval does not include zero, this leads to the inference that the relationship between the indirect effect and the moderator is not zero – moderated mediation' (p. 8). The second finding reveals that 'any two conditional indirect effects defined by different values of the moderator are statistically significant' (p. 14); after interpreting the index, there is no need to probe the moderator. The results of the moderated mediation models are presented in [Table 3](#).

These results revealed significant moderated mediation for all four models. Bus driver bullying had an indirect effect (through job stress) on anxious driving, occupational self-efficacy, emotional exhaustion, and cynicism. Years of driving significantly moderated all four indirect effects; the indirect effects became stronger for drivers who had been driving bus routes for many years (see [Table 3](#) for conditional indirect effects).

Table 3. Moderated mediation analyses of bus driver bullying on work outcomes as mediated by job stress. Indirect effects are first stage moderated ($\theta_{X \rightarrow M}$) by years of bus driving experience.

Percentile values of moderator (W): years of driving experience ($M = 10.12$ years)				
10th (1 year)	25th (3 years)	50th (6 years)	75th (14 years)	90th (21 years)
Conditional indirect effects (LLCI, ULCI)				
Model 1 = Bus driver bullying → job stress → anxious driving				
.0422 (.0043, .1040)	.0497 (.0146, .1075)	.0646 (.0318, .1166)	.0907 (.0521, .1438)	.1167 (.0665, .1894)
Index of moderated mediation = .0037 (.0006, .0077)				
Model 2 = Bus driver bullying → job stress → occupational self-efficacy				
-.0186 (-.0689, .0024)	-.0218 (-.0703, .0026)	-.0282 (-.0738, .0044)	-.0395 (-.0925, .0054)	-.0508 (-.1201, .0043)
Index of moderated mediation = -.0016 (-.0051, .0000)				
Model 3 = Bus driver bullying → job stress → emotional exhaustion				
.0813 (.0146, .2042)	.0952 (.0363, .2098)	.1162 (.0614, .2174)	.1720 (.0983, .2676)	.2209 (.1191, .3534)
Index of moderated mediation = .0070 (.0008, .0156)				
Model 4 = Bus driver bullying → job stress → cynicism				
.0452 (.0019, .1524)	.0537 (.0067, .1558)	.0663 (.0121, .1643)	.1002 (.0226, .2095)	.1340 (.0351, .2802)
Index of moderated mediation = .0042 (.0008, .0117)				

Notes: Bias-corrected bootstrapped confidence intervals using 10,000 samples. Confidence intervals excluding zero for each indirect effect indicate mediation. Confidence intervals excluding zero for each index of moderated mediation indicate that any two conditional indirect effects are significantly different from each other.

RQ1 inquired about the relationships between driver bullying and coping styles and RQ2 inquired about the relationships between coping styles and stress. Overall, these variables were unrelated. The only significant correlation was between driver bullying and the mastery coping style ($r = .22, p < .05$). No other significant relationships were found (see Table 1 for all correlations).

Discussion

Bus drivers already have a demanding job ensuring the safety of students and their arrival to and from school. Drivers must accomplish many simultaneous tasks every day of work (see Salmon et al., 2011) including preparation tasks (e.g. pre-departure mechanical checks), physical vehicle control tasks (e.g. accelerating, changing gears, braking), cognitive vehicle control tasks (e.g. checking mirrors, monitoring and forecasting other driver behavior), route/timetabling tasks (e.g. keeping on the desired route and timing stops and pickups), and communication tasks (e.g. using the radio). Because of the considerable multitasking that bus drivers must carry out as they drive, it is unfortunate that student passengers add to their demands when they verbally and physically bully other students and the bus driver. Although observed student-to-student bullying was related to bus drivers' stress at work, student-to-driver bullying produced larger and more consistent effects. Indeed, bus drivers reported being victimized by students, and this victimization created stress, which in turn, affected anxiety while driving, occupational stress, job satisfaction, and burnout. Coping styles appeared to do little to help with stress.

These findings are important because they reveal that student bullies are affecting bus drivers' thoughts and emotions tied to the job; bullies are creating unneeded stress for

drivers, which is making them more dissatisfied, exhausted, cynical, anxious, and less able to perform their job duties. Moreover, another important finding was that veteran drivers were affected more severely than novice drivers by bullying and the resulting job stress and stress-related outcomes. This suggests that bullying on the bus may have a cumulative effect on drivers and takes a toll over time because of the additive stress it creates. This explanation is consistent with Lutgen-Sandvik et al. (2009) work characterizing workplace bullying as a long-term and corrosive phenomenon that ‘hammers’ or ‘chips away’ at a target (p. 30).

Applied implications

These findings have important applied and translational applications. First, interventions for bullying on the bus are warranted. Although school districts may not invest time and money into providing interventions for bullying, research suggests that interventions have worked for districts looking to improve student bus-riding behavior. For example, Putnam, Handler, Ramirez-Platt, and Luiselli (2003) implemented a whole-school intervention and created bus rules, trained bus drivers to use positive reinforcement and rewards, and used a weekly school based lottery to improve bus-riding behavior. The results of this intervention were positive as referrals and suspensions of student riders decreased in the long term. Schools that are facing serious student passenger issues should consider systematic interventions to relieve bus drivers of some of the bullying-induced stress on the job. We recommend that these interventions focus on admonishing negative communication between students (e.g. using role-playing to increase student empathy, assertiveness, etc.) and include feedback from the bus drivers; these interventions should be implemented district-wide with longitudinal assessments of their effectiveness.

Second, school district administrators need to support their bus drivers when they report bullying behavior and involve drivers in discussions and planning efforts for anti-bullying initiatives (deLara, 2008). Because the bullying of bus drivers affects their ability to optimally do their job, administrators must not brush off perpetrating students and hope the bullying subsides. Rather, administrators must recognize that although the more difficult response to bullying might be to involve parents and peers and actively intervene instead of merely providing reactionary punishments to bullies (e.g. verbal reprimands, detentions, etc.); such a response might be more effective. Much of the responses to bullying by schools are reactionary rather than preventative; that is, bullies are only talked to *after* they are caught victimizing others (Dake, Price, Telljohann, & Funk, 2003). Research reveals that parents believe school officials are not doing enough to intervene when their child is bullied (Brown, Aalsma, & Ott, 2013). Administrators are certainly busy with many school-related concerns, but the quick reactionary responses to bullies by schools is inefficient when bullies continue to victimize others; repeat bullies require more communication from school officials beyond reactionary punishments.

Consequently, we suggest that administrators not only punish a bully and support their bus drivers with reported incidents, but we also recommend that administrators make it easier for drivers to restructure seating arrangements or even remove bullies from a bus route (treating transportation as a privilege, not a right). We also encourage administrators to open communication channels with both parents and student peers during reported

bullying incidents (Jimerson & Huai, 2012). Administrators should communicate with bystander peers during discussions of bullying so that innocent peers become aware of their role when they observe bullying on the bus. Peer interventions are typically successful and stop bullying about 50% of the time at school, but when peers act as uninvolved bystanders and watch the bullying unfold, it tends to last longer (Cappadocia, Pepler, Cummings, & Craig, 2012). Peers and intervening bystanders on the bus may play an integral role in discouraging bullying behavior, therefore, bystander communication training may encourage witnesses speak out against victimization (Lutgen-Sandvik & Tracy, 2012). Moreover, if funds are available for a district, administrators should consider installing video cameras on all buses in a fleet to provide definitive proof that perpetrating students are bullying others (Raskauskas, 2005); their rights to ride the bus should be revoked with ample evidence.

Finally, bus driver training on how to respond to student bullying is necessary for the safety of passengers and the bus drivers. Bus drivers may not be well-equipped to manage student-to-student bullying, let alone bullying directed toward them during a route. Bus driver training is needed to enhance their cognitive, affective, and behavioral responses to student bullying. Bus driver training has been shown to improve cognitive skills in driving situations (Beanland, Goode, Salmon, & Lenné, 2013). The case for bus driver training is quite apparent. For instance, an incident in Springfield School District (Enright v. Springfield School District, 2007) involving the sexual harassment and physical bullying of a special education student ended in a verdict awarding her and her family \$400,000. The court awarded this money because they agreed that the district had not trained the bus drivers to properly respond to student misconduct; they only provided basic driver training. Bus drivers cannot be held accountable for responding to student bullying issues without receiving proper communication training. Unfortunately, the training bus drivers do receive is largely mechanical and ignores interpersonal dynamics on the bus. Of course, this recommendation remains speculative as we did not collect any data on possible training interventions.

Future directions and limitations

Future research might focus on implementing and assessing bus driver training programs and examining the workplace outcomes measured in this study as a post-test assessment; that is, examine if the data support a need for training. Do bus driver training programs equip drivers with efficacious responses to their victimization and do they report less stress and negative workplace outcomes post-training? Future research should also examine bus drivers' interviews about bullying on the bus to gain their firsthand perspective on the problems they face and how it affects them. It is important to understand how drivers feel in their own words (given they are bullied by children and not adults) and how their emotions may affect their stress-related responses and coping. Likewise, because the coping strategies we examined did little to relieve stress of bus drivers, it may be more insightful to examine bus drivers' taint negotiation strategies to understand perceptions of social, physical, and moral stigmatization which is grounded in research on 'dirty work' (e.g. see Ashforth, Kreiner, Clark, & Fugate, 2007; Rivera, 2015; Rivera & Tracy, 2014).

As in any study, this study had some limitations. The primary limitation of this study was that we did not examine the long-term effects of bus driver bullying on workplace

outcomes; we utilized a cross-sectional design. Considering that years of driving experience moderated the indirect effects of bullying in this study, there is evidence that bullying over time may ‘add up’ for veteran drivers by creating anxiety and burnout while hindering their efficacy in driving. Thus, longitudinal studies of bullying on the bus are recommended. Another limitation was that we did not measure the extent to which bullying on the bus served as a distraction and potential catalyst for accidents (Dorn & Wählberg, 2008). Another limitation involves the conceptual murkiness between students’ disruptive behavior and actual bullying of bus drivers. By definition, for bullying to occur there must be an observed or perceived power imbalance (Gladden et al., 2014) between the bully (student passenger) and target (bus driver). Given the legitimate and formal authoritative role and power that bus drivers are granted, it may be unclear if the perceived power imbalance exists for every case of student misconduct, and thus, some misconduct may not be bullying by definition. A final limitation is the homogeneity in this sample; literature clearly suggests that students are bullying because of intergroup discrimination based on race, ethnicity, and sexual orientation (Aboud & Joong, 2008) and our sample did not allow us to examine these reasons.

Conclusion

In conclusion, this study is one of the first to examine students bullying their bus drivers. The results of this study provide insight into the damaging effects of student bullying on bus drivers’ ability and ease in performing their jobs. The findings provide empirical evidence that new policies, interventions, and training sessions are necessary for bus drivers who clearly need to respond to bullying somehow. Bus drivers already have a challenging job by ensuring the safety of students to and from school and reducing bullying on the bus would make it easier and safer for them to perform their occupational duties.

Note

1. The items were: *My student passengers*: (1) call me names, (2) hit me, (3) push me, (4) threaten me, (5) damage my property, (6) make sexual comments directed at me, (7) spread rumors about me, (8) make rude gestures at me, (9) play pranks on me, (10), rally other student passengers against me, (11) sexually harass me, (12) spit on me, (13) taunt me, (14) try to intimidate me, (15) throw objects at me, (16) heckle me, (17) curse obscenities at me, (18) cause chaos on my bus, (19) try to distract me, (20) verbally abuse me.

Disclosure statement

No potential conflict of interest was reported by the authors.

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