



Research paper

Rewards, praise, and punitive consequences: Relations with intrinsic and extrinsic motivation



George G. Bear, PhD ^{a,*}, Jessica C. Slaughter, PhD ^b, Lindsey S. Mantz ^a,
Elizabeth Farley-Ripple, PhD ^a

^a School of Education, University of Delaware, Newark, Delaware 19716, USA

^b Colonial School District –New Castle, Delaware, USA

HIGHLIGHTS

- Large sample of 10,344 students in grades 5–12.
- Intrinsic reasons for prosocial behavior were more common than extrinsic reasons.
- Greater use of punitive consequences was associated with greater extrinsic and lower intrinsic motivation.
- Greater use of praise and rewards was associated with higher extrinsic motivation.
- Greater use of praise and rewards was not associated with lower intrinsic motivation.

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1. Introduction

A substantial body of research shows that praise, rewards, and punitive consequences (e.g., verbal reprimand, time-out, taking away privileges) are effective in managing individual student behavior and thus are common techniques of classroom management and school discipline (Bear, 2015; Landrum & Kauffman, 2006). Indeed, in addition to other techniques, such as developing supportive teacher-student relationships and students' social and emotional competencies, the most effective teachers and schools use praise and rewards to teach and reinforce desired behavior and use punitive consequences to decrease undesired behavior (Bear, 2015; Brophy, 1983, 1996; Landrum & Kauffman, 2006). Despite their effectiveness in managing student behavior, praise, rewards, and punitive consequences have been subjects of much criticism, with the harshest criticism voiced against the use of punitive consequences and particularly corporal punishment and

emotional abuse (e.g., sarcasm, harassment, yelling; Hyman, 1990) and school suspensions (e.g., American Psychological Association Zero Tolerance Task Force, 2008; Skiba et al., 2011). Frequent praise and rewards also have been the targets of criticism (Deci, Koestner, & Ryan, 1999, 2001; Dweck, 1999, 2006; Kohn, 1999). Although a comprehensive review of the research on praise, rewards, and punitive consequences and the criticisms of their use is beyond the scope of the current study, one criticism is primarily addressed: That an emphasis on the frequent use of teacher-centered praise, rewards, and punitive consequences promotes students' extrinsic motivation but stifles their intrinsic motivation for prosocial behavior.¹

1.1. Why praise, rewards, and punitive consequences may harm intrinsic motivation and promote extrinsic motivation

Prosocial behavior refers to students helping and respecting others and refraining from antisocial behavior (Eisenberg, Fabes, & Spinrad, 2006). When extrinsically motivated, students' prosocial behavior is governed by gaining external rewards, praise, and acceptance from others and by avoiding loss or punitive consequences. When intrinsically motivated, students instead engage in prosocial behavior for its own sake – not governed by instrumental gain but instead by interpersonal values, prosocial emotions (e.g., feelings of empathy), and the impact of their behavior on others

* Corresponding author.

E-mail addresses: gbear@udel.edu (G.G. Bear), jcblank608@yahoo.com (J.C. Slaughter), lmantz@udel.edu (L.S. Mantz), enfr@udel.edu (E. Farley-Ripple).

¹ Instead of the terms positive reinforcement and punishment, we use rewards and punitive consequences to recognize that rewards do not necessarily reinforce, or increase, behavior and that punitive consequences do not necessarily punish, or decrease, behavior.

(Eisenberg et al., 2006; Solomon, Battistich, Watson, Schaps, & Lewis, 2000). Compared to students who are primarily motivated extrinsically, those who are primarily motivated intrinsically are better adjusted socially, emotionally, and academically (Battistich, 2008; Blunt-Bugental & Grusec, 2006; Deci & Ryan, 2008a, 2008b; Eisenberg et al., 2006; Frieberg, 1999; Zsolnai, 2002).

Concerns about the frequent use of external praise and rewards (especially the latter) promoting extrinsic motivation and stifling intrinsic motivation for prosocial behavior have been voiced by researchers of the past (e.g., Kohlberg, 1984; Montessori, 1974; Piaget, 1932/1965) and present (Adelman & Taylor, 2010; Osher, Bear, Sprague, & Doyle, 2010; Deci et al., 1999, 2001; Dweck, 1999, 2006; Reeve, 2009, 2015). Those researchers are likely to agree that an approach to classroom management and school discipline that emphasizes teachers' frequent use of praise and rewards is more favorable than an approach that emphasizes punitive consequences. However, they often point out that the primary aim of both approaches is too often one and the same – obtaining student compliance to adults' rules and behavioral expectations. It is argued that at the expense of focusing on this short-term aim, the long-term aim of developing social-emotional skills associated with self-discipline and intrinsic motivation is too often overlooked. This criticism applies to two of the most popular approaches to school discipline (Osher et al., 2010): the zero-tolerance approach, with its emphasis on punitive consequences and particularly removal from the classroom or school to manage student behavior, and the behaviorally-oriented School-Wide Positive Behavior Interventions and Supports (SWPBIS) approach, with its emphasis on frequent and systematic use of praise and rewards for teaching and managing student behavior (Sugai & Horner, 2009; Sugai et al., 2010).

Moral development theory and self-determination theory, two prominent theories in developmental psychology, are often cited when criticizing the use of systematic and frequent external rewards and punitive consequences to manage student behavior (Bear, 2010; Osher et al., 2010; Brophy, 2004). We discuss these two theories briefly below.

1.1.1. Moral development theory

Moral development theory posits that moral reasoning, or the way in which individuals think about moral situations, advances through cognitive maturation, social experiences, and the internalization of societal values (Eisenberg et al., 2006; Kohlberg, 1984). Over the course of development, children and adolescents gradually identify, integrate, and internalize external social and moral knowledge into their own value system and use those values to guide their reasoning and to self-regulate their behavior (Grolnick, Deci, & Ryan, 1997). In the early elementary grades, children's behavior is motivated primarily by seeking rewards or attention and by avoiding punitive consequences. Moral reasoning becomes more sophisticated over time, taking into account the perspectives and needs of others both individually and collectively (Eisenberg et al., 2006; Kohlberg, 1984). Whereas self-oriented moral reasoning tends to be representative of students who display antisocial behavior, conduct problems, physical and relational aggression, and bullying (Carlo, Mestre, Samper, Tur, & Armenta, 2010; Stams et al., 2006), other-oriented reasoning tends to be representative of students who engage in prosocial behavior (Carlo et al., 2010).

1.1.2. Self-determination theory

In theorizing how intrinsic prosocial motivation develops and is maintained, Deci and Ryan (2008a, 2008b) argue that external moral and social values become internalized through an incremental process. The degree to which knowledge is internalized is

associated with differences in one's perceptions of self-determination or control over one's own decision making, behavior, and environment. This process is best described as a continuum from low internalization and high extrinsic (also referred to as controlled) motivation or reasons for engaging in moral and social behavior to high internalization and high intrinsic motivation.² Along the continuum there are four types of motivational reasoning that reflect four degrees of internalization and self-regulation. The first two degrees reflect extrinsic motivation, with individuals engaging in prosocial behavior to gain rewards and avoid punitive consequences. The third and fourth degrees of internalization reflect reasoning that is intrinsically or autonomously regulated. Individuals engage in prosocial behavior due to personal concern for others and for moral values. Self-determination theory posits that as individuals increase the strength to which they possess intrinsic prosocial motivation, they decrease the strength to which they possess extrinsic prosocial motivation.

Research indicates that prosocial reasoning associated with the degrees of internalization in self-determination theory aligns with the development of more mature types of moral reasoning (Ryan & Connell, 1989; Wentzel, Filisetti, & Looney, 2007). That is, prosocial reasoning associated with the first two degrees of internalization in self-determination theory is quite similar to early types of moral reasoning in that both are self-oriented and focused on external contingencies (e.g., seeking rewards and avoiding punitive consequences). The latter two degrees of internalization in self-determination theory are also quite similar to the more mature types of moral reasoning in that they are other-oriented and based largely on perceptions of empathy, the impact of one's behavior on others, caring, principles of fairness and justice, and an understanding and appreciation of rules and laws. Similar to research linking moral reasoning to prosocial and antisocial behavior, research guided by self-determination theory shows that students with high intrinsic motivation, compared to those with high extrinsic motivation, demonstrate greater prosocial behavior and less antisocial behavior (Roth & Bibi, 2010; Ryan & Connell, 1989).

From the perspectives of moral development and self-determination theories, an emphasis on teacher-centered techniques for managing student behavior, especially punitive consequences and the systematic use of external rewards, is likely to harm intrinsic motivation and promote extrinsic motivation. This is because such an emphasis undermines students' internal sense of responsibility and self-regulation, leading students to attribute the cause of their behavior to the salience of external praise, rewards, and punitive consequences, and not to self-perceptions of competence and autonomy (Blunt-Bugental & Grusec, 2006; Eisenberg et al., 2006; Weiner, 2006).

1.2. Research literature reviews on the impact of praise and rewards on intrinsic motivation

Consistent with moral development and self-determination

² To be clear, the term intrinsic prosocial motivation as used in this study does not entirely represent the nature of intrinsic motivation in Deci and Ryan's self-determination theory. Self-determination theory conceptualizes intrinsic motivation as an inherent enjoyment in the engagement in an activity that is not the result of the internalization process. Whereas prosocial motivation develops through the internalization process (i.e., individuals identify and recognize the value of acting prosocially), it is not inherently intrinsic in nature (Ryan & Connell, 1989). However, the term intrinsic prosocial motivation was used in this study to describe the two highest internalized forms of prosocial motivation (i.e., identified and integrated) as it is commonly used in the literature when discussing the controlling use of rewards (e.g., Adelman & Taylor, 2010; Brophy, 2004; Frieberg, 1999; Solomon et al., 2000).

theories, several comprehensive reviews of the literature have concluded that tangible rewards can be harmful to intrinsic motivation. This is particularly true when rewards are used in a controlling manner to elicit compliance (e.g., “If you behave, you will earn a ticket”) and when social comparisons are highlighted (e.g., “You’re earning more tickets than Harry”) (Deci & Ryan, 2008a; Deci, Koestner, & Ryan, 2001, 1999). Although praise also has been found to impact intrinsic motivation negatively (Dweck, 1999), it is less likely to do so compared to tangible rewards because praise is rarely used in a controlling manner (Deci et al., 1999, 2001). Nevertheless, praise often is the subject of the same criticism of tangible rewards (e.g., Dweck, 1999, 2006; Frieberg, 1999; Kohn, 1999).

Other reviews of the research literature, however, have concluded that it is very unlikely that rewards, especially as commonly used in schools, harm intrinsic motivation (Akin-Little, Eckert, Lovett, & Little, 2004; Cameron & Pierce, 1994; Cameron, 2001). In those reviews researchers concluded that intrinsic motivation, as observed in increases in desired behaviors and decreases in undesired behaviors, almost always improves with use of external rewards. The researchers recognize, however, that rewards are not always effective (i.e., do not always reinforce behavior) and might harm intrinsic motivation under certain controlling conditions. They also often advise against frequently rewarding students for behavior that they already exhibit in the absence of external rewards. However, they assert that although those contexts and practices are often found in research laboratories—which is where most of the studies cited in the above reviews were conducted—they are seldom found in classrooms and schools (an assertion challenged by opposing researchers). Thus, advocates of the frequent and systematic use of praise and rewards (e.g., Akin-Little et al., 2004; Cameron, 2001; Sugai & Horner, 2009) largely dismiss the practical importance of studies that have reported harmful effects.

1.3. Focus of the study

Despite the debate and concerns among researchers and educators, there is a dearth of school-based studies examining whether praise, rewards, and punitive consequences, as commonly used in schools, are associated with intrinsic and extrinsic prosocial motivation. This was the focus of the current study. As described in the section that follows, we conducted the study in schools that to one extent or another adopted the SWPBIS approach for prevention and school discipline, in which the frequent and systematic use of praise and tangible rewards is a primary feature (Bear, 2010; Sugai et al., 2010). However, as also described, many of those schools also used punitive consequences, especially suspension. Thus, we expected great variability in the frequency of the use of praise, rewards, and punitive consequences in those schools, thereby providing a valuable context to test if greater frequency of their general use is associated with students’ extrinsic and intrinsic prosocial motivation. In examining relations between students’ intrinsic and extrinsic prosocial motivation and their perceptions of the frequency of their schools’ use of praise, rewards, and punitive consequences, we controlled statistically for the effects of sex and race/ethnicity at the individual student level and for socioeconomic status at the school level.

Based on literature previously described, we predicted that greater extrinsic prosocial motivation would be associated with students’ perceptions of more frequent use of praise, rewards, and punitive consequences. We also predicted that students’ perceptions of the more frequent use of punitive consequences would be associated with less intrinsic prosocial motivation. However, we made no predictions about the relationship between intrinsic

prosocial motivation and the use of praise and rewards, as perceived by students, because prior literature reviews have provided contradictory results as to whether intrinsic prosocial motivation is harmed by praise and rewards.

2. Method

2.1. Setting

At the time of the study, the 58 schools attended by students in the sample were currently implementing the Delaware Positive Behavior Support (DE-PBS) approach, which integrates strategies and techniques of the SWPBIS approach (Sugai & Horner, 2009; Sugai et al., 2010) with those of the Social and Emotional Learning approach (SEL; Durlak, Domitrovich, Weissberg, & Gullotta, 2015). Such integration is not uncommon (Bear, Whitcomb, Elias, & Blank, 2015; Bradshaw, Mitchell, & Leaf, 2010). To one extent or another each school had been integrating these two approaches for at least one school year, with the number of years of implementation ranging from 1 ($n = 3$) to 7 ($n = 5$) and a mean of 4 years. Consistent with the SWPBIS approach (Bear, 2010), schools were encouraged to recognize desired behavior of students with praise and tangible rewards, including tokens or tickets that were exchangeable for tangible rewards and privileges.

Although all schools used praise and rewards at the school-wide level, we expected much variation would exist within and across schools in their actual use. This was especially true given that the schools likely varied in their philosophies, trainings, and implementation of practices. Moreover, to one extent or another, all schools had participated in state-wide workshops provided by the Delaware Department of Education (DDOE) in the SEL approach, and they were encouraged to integrate features of SWPBIS, including tangible rewards, with techniques more commonly associated with the SEL approach. The SEL techniques included targeting not only observable behaviors but also developing five basic SEL skills commonly cited in the SEL literature (Durlak et al., 2015): responsible decision making, self-management of emotions and behavior, relationship skills, self awareness, and social awareness. Instead of emphasizing the frequent and systematic use of rewards (except when needed for behavior not intrinsically motivated), greater emphasis is placed on the importance of supportive teacher-student relationships, use of curriculum lessons to develop SEL skills, and opportunities for students to apply SEL skills.

Additionally, practices consistent with a zero tolerance approach to school discipline, with its emphasis on use of school suspensions as a consequence for misbehavior, was clearly in place in many of the schools. As required by state law, all schools had codes of conduct that delineated a graduated severity of consequences for misbehavior, including suspension from school. During the school year that data were collected in the current study, Delaware had recently been ranked fifth in the United States for the number of out-of-school suspensions (Office for Civil Rights, 2010). Although the extent to which each school implemented SWPBIS, SEL, and zero tolerance practices was not evaluated, the combination of those practices in the schools served the purposes of the study quite well in providing a setting in which schools engaged not only in the frequent use of praise and rewards but also punitive consequences.

2.2. Participants

The sample consisted of 10,344 students in grades 5–12: 3525 fifth-grade students in 40 elementary schools (32 schools for grades kindergarten–5, 6 for grades 1–5, and 2 for grades 2–5),

3941 students in 12 middle schools (11 for grades 6–8 and 1 for grades 7–8), and 2878 students in 6 high schools (grades 9–12). All schools were public schools in the state of Delaware, and together they comprised 18% of public schools in the state. Table 1 provides demographic information of the sample, as obtained from items on the student survey about grade level, sex, and race/ethnicity. All schools volunteered to participate in response to a request by the Delaware Department of Education (DDOE). The measures completed in the current study were part of a larger survey of school climate, the Delaware School Climate Survey-Student (DSCS-S; Bear, Gaskins, Blank, & Chen, 2011; Bear et al., 2014), conducted annually by the DDOE. However, the participants in the current study were limited to the schools and grades (only 5–12) in which surveys were completed via computer using Survey Monkey because only the computerized version of the survey included the prosocial motivation scale used in this study.

2.3. Measures

For purposes of the current study we added two scales to the DSCS-S: (a) a scale of students' perceptions of the use of positive and punitive consequences in their school and (b) a scale of students' self-reported intrinsic and extrinsic prosocial motivation. Those two scales are described below.

2.3.1. Positive and punitive disciplinary techniques

Eight items on the 2013 version of School Disciplinary Techniques scale of the DSCS-S assessed students' perceptions of the use of positive and punitive disciplinary techniques by teachers and other adults within their classrooms and school. Four items comprised a positive techniques subscale that assessed the use of praise and rewards. Those items were: "Students are praised often," "Students are often given rewards for being good," "Teachers let students know when they are being good," and "Classes get rewards for good behavior." Four items comprised a punitive disciplinary techniques subscale: "In this school students are punished a lot," "Students are often sent out of class for breaking rules," "Students are often yelled at by adults," and "Many students are sent to the office for breaking rules." Prefacing each item, students were asked "how much do you think the following happens in this school." They responded using a 4-point Likert scale, with 1 = *Disagree a Lot*, 2 = *Disagree*, 3 = *Agree*, and 4 = *Agree a Lot*. Within each subscale, scores across the four items were added together to create a composite subscale score.

Evidence of the validity and reliability of subscale scores are presented in a technical manual for the DSCS-S produced by the DDOE (Bear et al., 2014). Included are results of confirmatory factor analyses confirming the factorial integrity of the two subscales and showing invariance across grade level (i.e., elementary, middle, and

high), sex, and race/ethnicity (i.e., Anglo-American, African-American, Hispanic-American, Asian-American, and "Other races including mixed race"). For the sample in the current study, alpha coefficients were 0.82 for the positive behavioral techniques subscale and 0.72 for the punitive consequences subscale.

2.3.2. Intrinsic and extrinsic prosocial motivation

A 24-item Prosocial Motivation Scale was developed to assess students' perceptions of their motivation or reasoning towards two prosocial situations: (a) helping others and (b) following rules. Students were first given the question "Why do you help others?" followed by a set of 12 reasons that might govern their thinking (e.g., "Because teachers praise me for being good"). Next, students were asked "Why do you follow school rules that are fair?" and were again given a set of 12 reasons for doing so. The 12 reasons reflected operationalized examples of intrinsic prosocial motivation and extrinsic prosocial motivation based on theory and pre-existing prosocial motivation scales (Ryan & Connell, 1989; Wentzel et al., 2007). The scale was designed to measure the prosocial motivation types separately because research has indicated that individuals can possess aspects of both prosocial motivational orientations at the same time and at different degrees (Deci & Ryan, 2008b). As also true with all items on the DSCS-S, items had a readability index at the third-grade level. Students responded using a 4-point Likert scale, with 1 = *Never a Reason*, 2 = *Sometimes a Reason*, 3 = *Often a Reason*, and 4 = *Always a Reason*. Following procedures used by Wentzel et al. (2007) for a similar measure of prosocial reasoning, we summed scores on items across the two situations to yield a total intrinsic prosocial motivation score and a total extrinsic prosocial motivation score. We employed exploratory factor analysis (EFA) to identify constructs underlying the prosocial motivation scale followed by confirmatory factor analyses (CFA) to cross-validate those results.

For purposes of factor analyses the sample was randomly divided into two subsamples. With a randomly selected subsample of 5180 students, EFA was conducted using PASW Statistics 18 (SPSS Inc., 2011). We followed procedures similar to those used by Wentzel et al. (2007) to address skewness in distribution of item responses. As such, the 12 prosocial items from each of the two prosocial situations (i.e., helping others and following rules) were combined to create one set of 12 prosocial items (e.g., item 1 from the helping others situation combined with item 1 from following rules situation; Cudeck, 2000). Traditional methods of EFA were first applied, with principal axis factor analysis and Promax oblique rotation and the factor solution evaluated against the following five rules: (a) eigenvalues greater than 1.0 (Kaiser, 1960); (b) scree (Cattell, 1966), (c) Glorfeld's (1995) extension of parallel analysis, (d) minimum average parcels (MAP; Velicer, 1976), and (e) interpretability (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Table 1
Demographic information for the final sample.

	Grade Level			
	Elementary	Middle	High	Full Sample
Sex				
Boys	1764 (50.0%)	2016 (51.2%)	1517 (52.7%)	5297 (51.2%)
Girls	1761 (50.0%)	1925 (48.8%)	1361 (47.3%)	5047 (48.8%)
Race/Ethnicity ^a				
Anglo-American	1627 (46.8%)	2023 (51.5%)	1557 (54.4%)	5207 (50.7%)
African-American	939 (27.0%)	916 (23.3%)	623 (21.8%)	2478 (24.1%)
Hispanic-American	393 (11.3%)	435 (11.1%)	294 (10.3%)	1122 (10.9%)
Asian-American	81 (2.3%)	124 (3.2%)	102 (3.6%)	307 (3.0%)
Other	439 (12.6%)	431 (11.0%)	287 (10.0%)	1157 (11.3%)

Note. N = 58 schools: 40 elementary schools, 12 middle schools and 6 high schools.

^a 73 students did not report a race.

The initial EFA of the 12 items presented a three-factor solution; however, the third factor only consisted of two items (i.e., Item 2: “Because I might get into trouble if I don’t” and item 4: “Because if I didn’t, an adult would tell me I should have helped” or “Because I don’t want to get yelled at for not following rules”). Although a moderate relationship was found between the two items ($r = 0.56$), the magnitude did not substantially differ from the relationships the two items had with the other 10 items in the scale (range of r 's = 0.20–0.43). In further determining the number of factors to retain, the MAP indicated a two-factor solution; thus, we decided that the two items on the third factor be omitted from a second EFA. Table 2 presents the rotated pattern matrix for the two-factor solution. The factors of Intrinsic Prosocial Motivation and Extrinsic Prosocial Motivation aligned with theoretical expectations, with the first factor accounting for the majority of the variance in the scale (51.56% vs. 14.94% for the second factor). The correlation between the two retained rotated factors was 0.63, indicating that the two dimensions were moderately related and shared approximately 40% of common variance.

Next, we conducted CFA on the second randomly selected sample ($N = 5164$), using Mplus 6.11 (Muthén & Muthén, 1998–2015), to validate the two-factor structure that emerged from results of the EFA. Because students were nested within schools, prior to conducting the CFA we calculated intraclass correlations (ICCs) for each of the factor scores to assess the degree to which variability in student responses could be accounted for at the school level. The ICCs at the school level ranged from 6.8% for scores of extrinsic prosocial motivation to 9.3% for scores of intrinsic prosocial motivation. Thus, because student responses were non-independent and a portion of the variance was accounted for at the school level, the following CFA analyses accounted for the nesting of students within schools by centering individual item responses around the school mean (using the centering command in Mplus).

The proposed two-factor model first yielded poor to acceptable fit indices, $\chi^2 = 1449.337$ (34, $N = 5067$), $p < 0.001$, Comparative Fit Index (CFI) = 0.905, Root Mean-Square Error of Approximation (RMSEA) = 0.091, and Standardized Root Mean-Square Residual (SRMR) = 0.050. To improve model fit, we examined modification indices in the initial model specification to determine whether any of the residual variances were strongly correlated and thus could be added to the two-factor model. This was found for items 6 and 8 and items 9 and 10. These strong correlations are theoretically supported because these two sets of items were designed to gather very similar information. For example, items 6 and 8 were designed to measure reasoning related to gaining rewards and praise and

items 9 and 10 were designed to measure reasoning related to wanting others to think he or she is a good person. Therefore, to improve model fit, we added these correlations to the two-factor model.

As shown in Table 3, the second two-factor model yielded acceptable to excellent fit indices, $\chi^2 = 854.456$ (32, $N = 5067$), $p < 0.001$, CFI = 0.945, RMSEA = 0.071, and SRMR = 0.042. Item loadings for the two-factor model of the ten items are presented in Table 4. Loadings ranged from 0.43 to 0.82, with each loading being statistically significant. The two subscale scores correlated 0.59 ($p < 0.001$), suggesting that the scores were independent, yet significantly and positively related to one another. As evidence of the reliability of scale scores, for the total sample the alpha coefficient estimating internal consistency was 0.88 for the intrinsic prosocial motivation subscale and 0.84 for the extrinsic prosocial motivation subscale.

2.4. Procedures

Surveys were completed in early spring, with instructions given to each school on their administration. It was recommended that all eligible students complete the survey. However, because of their large student enrollments, high schools were given the option of surveying 50% of their students and were given specific instructions for random sampling at each grade level. Surveys were completed in classrooms, the library, or computer laboratory, and teachers assured students of confidentiality of their responses. In elementary schools, teachers were instructed to read items aloud to the class if any students read below the third grade level. The

Table 3
Fit statistics for CFA models tested.

Model	χ^2	df	CFI	SRMR	RMSEA
One-factor model (10 items)	4195.32*	35	0.721	0.087	0.153
Two-factor model (10 items)	854.46*	32	0.945	0.042	0.071
Two-factor model (9 items)	704.81*	25	0.951	0.035	0.073

Note. χ^2 = Chi-square statistic; df = degrees of freedom; CFI = Comparative Fit Index; SRMR = Standardized Root Mean-Square Residual; RMSEA = Root Mean-Square Error of Approximation. Models were tested on one half of the sample, randomly selected (N 's = 5067).

* $p < .001$.

^a The full information maximum likelihood (FIML) estimator in Mplus was used for estimating parameters with incomplete data, with missing responses to the 12 combined items on the survey ranging from 2.3% to 4.6% with 8819 students who had complete data sets.

Table 2
Rotated pattern matrix for the prosocial motivation scale.

Factor		
Item	Intrinsic	Extrinsic
1. Because it bothers me when I don't.	0.66	
3. Because I care about others.	0.86	
5. Because I would feel bad about myself if I didn't help. or Because I would feel bad about myself if I broke the rules.	0.83	
6. Because I might get a reward or something for helping. or Because I might get a reward or something.		0.71
7. Because I feel good inside when I help others. or Because I feel good inside when I respect rules that are fair.	0.89	
8. Because teachers praise me for being good.		0.81
9. Because I want other students to think I'm a good person.		0.55
10. Because I want teachers to think I'm a good person.		0.64
11. Because teachers will be nice to me. or Because others will help me in return.		0.65
12. Because it makes others feel good.	0.75	
Eigenvalue	5.156	1.494
Percent of variance	51.56	14.94
Cumulative percent of variance	51.56	66.49

Note. The analysis was conducted on one half of the sample, randomly selected. ($N = 5180$). Pattern coefficients greater than or equal to 0.55 are considered salient. Interpretation was simplified through the presentation of only salient coefficients. All coefficients are rounded to second decimal position for convenient presentation.

Table 4
Confirmatory factor analysis of the prosocial motivation scale: Two-factor model.

Item	Loading	SE
Factor 1: Intrinsic Prosocial Motivation		
1. Because it bothers me when I don't.	0.64	0.015
2. Because I care about others.	0.77	0.012
3. Because I would feel bad about myself if I didn't help. Or: Because I would feel bad about myself if I broke the rules.	0.78	0.008
4. Because I feel good inside when I help others. Or: Because I feel good inside when I respect rules that are fair.	0.83	0.007
5. Because it makes others feel good.	0.77	0.008
Factor 2: Extrinsic Prosocial Motivation		
6. Because I might get a reward or something for helping. Or: Because I might get a reward or something	0.43	0.023
7. Because teachers praise me for being good.	0.65	0.018
8. Because I want other students to think I'm a good person.	0.80	0.008
9. Because I want teachers to think I'm a good person.	0.82	0.008
10. Because teachers will be nice to me. Or: Because others will help me in return.	0.74	0.013

Note. $N = 5164$; Loading = standardized factor loading; SE = standard error.

University of Delaware's Institutional Review Board approved all procedures.

Completion rates, based on the percentage of students enrolled in each school completing the surveys, ranged from 12.12% to 91.88% (mean = 27.78%; median = 19.20%) of the total school population. Completion rates for elementary schools were smaller given that only students in fifth grade completed the measures used in this study (completion data were not available for fifth graders only).

2.5. Data analyses

We employed hierarchical linear modeling (HLM), using HLM 7 (Scientific Software International, 2005–2015), to examine students' perceptions of the use of praise, rewards, and punitive consequences were related to their intrinsic and extrinsic prosocial motivation. HLM accounted for the nested nature of students within schools. As such, in modeling the effect of scores for positive and punitive disciplinary techniques on prosocial motivation, variability within individual student reports (Level 1) was distinguished and variability between schools (Level 2) with estimate coefficients of the effects was determined at both levels.

At Level 1, we covaried statistically for the effects of sex and race/ethnicity. This was done in light of theory and research indicating mean differences in the type of prosocial motivation between males and females (Eisenberg et al., 2006; Wentzel et al., 2007) and in classroom removals and school suspensions between African-American and Anglo-American students (American Psychological Association Zero Tolerance Task Force, 2008; Skiba et al., 2011).

At Level 2, we covaried statistically for the effects of school grade level (elementary, middle, and high school) and socioeconomic status (SES). As a proxy for SES at the school level, the percentage of students in each school that qualified for free and reduced meals was used. It was important to covary for grade level effects given research showing age, or grade, differences in prosocial moral reasoning and motivation (Eisenberg et al., 2006; Lepper, Corpus, & Iyengar, 2005). It also was important to covary for SES effects in light of research indicating that middle class and working class/poor families value and promote self-regulation and compliance with authority differently, thus suggesting they might be exposed to and respond differently to school messages and practices that vary from those present within their familial context (Lareau, 2011).

3. Results

HLM model testing was executed in a hierarchical fashion in which in which we conducted four HLM models for each of the two

dependent variables. The models and their results are shown in Table 5. Below, we first present findings related to the primary research questions. We then present differences in prosocial motivation scores as a function of sex, racial/ethnic, and grade level. Next, we present differences in both mean scores and item responses on the intrinsic and extrinsic prosocial motivation subscales.

3.1. The relationship between intrinsic and extrinsic prosocial motivation with use of praise, rewards, and punitive consequences

As shown in testing the unconditional model (model 1), 9.15% of the variance in students' intrinsic prosocial motivation and 6.71% in extrinsic motivation could be explained by school factors. Additional variance in students' intrinsic and extrinsic prosocial motivation was accounted for when adding student demographics (model 2) and scores on the positive and punitive disciplinary techniques subscales (model 3). In combination, those level 1 variables accounted for 14.32% and 12.54% of the variance, respectively, in students' intrinsic and extrinsic prosocial motivation after accounting for the variance explained by student demographics. Model 4 shows that the addition of school characteristics to the model accounted for additional variance in students' prosocial motivation at the school level after accounting for student demographics and scores on the positive and punitive disciplinary techniques subscales.

Results of model 4 also indicate that students' perceptions of the frequency of praise and rewards continued to be positively and significantly related to intrinsic prosocial motivation ($b = 0.90$, $p < 0.001$) when covarying for student demographics and school characteristics. A one-point increase in students' scaled responses about use of praise and rewards was associated with an increase in nearly one point in their intrinsic prosocial motivation. Because the range of scores on the intrinsic prosocial motivation subscale (range = 10–40 points, $SD = 7.34$) was larger than the range of scores on the positive disciplinary techniques subscale (range = 4–16 points, $SD = 2.76$) the actual increase in ratings was quite small. The effect size was 0.017, which is a small effect in practice.³

In alignment with theoretical predictions, students' perceived

³ Effect size = coefficient for independent variable/variance for dependent variable (Hedges, 2009). Effect sizes cut offs have varied within the literature. Keith (2006) suggested cut points of 0.05 = small effect, 0.10 = medium effect, and 0.25 = a large effect. Cohen (1988) suggested cut points of 0.02 = small effect, 0.15 = medium effect, and 0.35 = large effect. For moderating variables, Aguinis and colleagues (2005) suggested that effects sizes should be lessened with cut points of 0.005 = small effect, 0.01 = medium effect, and 0.025 = large effect.

Table 5

Fixed effects estimates (top) and percentage of variance estimates (bottom) for models of the predictors of intrinsic and extrinsic prosocial motivation.

Parameter	Intrinsic Prosocial Motivation				Extrinsic Prosocial Motivation			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Fixed Effects								
Intercept	26.32	27.79	27.12	28.81	23.64	23.42	22.77	23.36
Level 1 (student)								
Male		-2.10***	-2.00***	-2.04***		0.26	0.46*	0.45*
African-American		-1.20***	-1.30***	-1.29***		0.34	0.20	0.20
Hispanic		0.14	-0.18	-0.16		0.05	-0.25	-0.27
Asian		0.90*	0.36	0.37		0.80*	0.29	0.33
Other		-0.90***	-0.79**	-0.81**		-0.23	-0.22	-0.25
Punitive consequences			-0.08*	-0.07*			0.15***	0.16***
Positive Techniques			0.92***	0.90***			0.93***	0.91***
Level 2 (school)								
SES				-0.02*				0.00
Middle School				-2.14***				-1.40***
High School				-2.11***				
Percentage of Variance								
Variance between schools	9.15	9.21	4.14	1.76	6.71	6.59	2.49	0.73
Explained between schools		2.43	63.29	84.75		1.85	68.92	91.08
Variance between students	90.85	90.79	95.86	98.24	93.29	93.41	97.51	99.27
Explained between students		3.06	14.32	14.30		0.02	12.54	12.49

Note. Model 1 = unconditional model; Model 2 = student demographics as level 1 covariates; Model 3 = punitive and positive techniques as level 1 predictors; Model 4 = school characteristics as level 2 covariates; SES= Socioeconomic status (Free and Reduced Meals).

* $p < .05$. ** $p < .01$. *** $p < .001$.

use of praise and rewards was positively and significantly associated with higher extrinsic prosocial motivation ($b = 0.91$, $p < 0.001$). A one-point increase in students' scaled responses about use of praise and rewards was associated with an increase in nearly one point in their extrinsic prosocial motivation. Given that the range of scores on the extrinsic prosocial motivation subscale (range = 10–40 points, $SD = 6.97$) was larger than the range of the positive disciplinary techniques scale (range = 4–16 points, $SD = 2.76$), the actual increase in ratings was also quite small, as the effect size was 0.019.

Further, students' reports of teachers' use of punitive consequences were significantly related to their intrinsic and extrinsic prosocial motivation. As predicted by theory and research, greater use of punitive consequences was related to lower intrinsic prosocial motivation ($b = -0.07$, $p = 0.03$) and higher extrinsic prosocial motivation ($b = 0.16$, $p < 0.001$). A one-point increase in students' scaled responses about punitive consequences was associated with a decrease in nearly one tenth of a point in their intrinsic prosocial motivation and an increase of nearly two tenths of a point in their extrinsic prosocial motivation. The effect sizes were quite small: 0.001 and 0.003, respectively.

3.2. Sex, racial/ethnic, and grade level differences

Although this study was not designed to examine the effects of student and school demographics but instead to statistically control for them, results of model 4 indicated that sex and race/ethnicity were significant predictors of intrinsic and extrinsic prosocial motivation. Female students were more likely to report higher levels of intrinsic prosocial motivation ($b = 2.0$, $p < 0.001$) and lower levels of extrinsic prosocial motivation ($b = -0.5$, $p = 0.028$) compared to male students. Anglo-American students were more likely to report higher levels of intrinsic prosocial motivation than African-American students ($b = 1.3$, $p < 0.001$) and students reporting "other" race/ethnicity ($b = 0.8$, $p = 0.004$). Furthermore, grade level and school-level SES were significant predictors of prosocial motivation. Elementary school students were more likely to report higher intrinsic prosocial motivation ($b = 2.1$, $p < 0.001$) and extrinsic prosocial motivation ($b = 1.4$, $p < 0.001$) than middle

school students. They also were more likely to report higher intrinsic prosocial motivation ($b = 2.1$, $p < 0.001$) and extrinsic prosocial motivation ($b = 2.1$, $p < 0.001$) than high school students. School level SES negatively and significantly predicted intrinsic prosocial motivation ($b = -0.02$, $p = 0.024$) but not extrinsic prosocial motivation. That is, as the percentage of students who received free or reduced meals increased, reports of intrinsic prosocial motivation decreased.

3.3. Mean differences and item responses on the intrinsic and extrinsic prosocial motivation subscales

In light of the results above, and especially finding a positive relationship between perceived use of praise and rewards and intrinsic prosocial motivation, we examined if students differed in mean scores for intrinsic and extrinsic prosocial motivation. Of particular interest was whether students were more intrinsically than extrinsically motivated, and if so, which responses were most and least common and contributed the greatest to the significant differences in composite scores. Means (M s) and standard deviations (SD s) for composite scores and individual items on the intrinsic and extrinsic prosocial motivation subscales are presented in Table 6. As indicated in composite mean scores and supported by the paired samples t -test ($t = 37.762$, $p < 0.000$), scores were significantly higher for intrinsic prosocial motivation than extrinsic prosocial motivation. As shown, scores were highest for items indicating that students' prosocial behavior was motivated intrinsically by feeling good about oneself (item 3) and caring about others (item 2) and were lowest for items indicating that their behavior was motivated extrinsically by rewards (item 6) and praise (item 7). Overall, results indicated that students were not lacking in intrinsic motivation, especially relative to extrinsic motivation.

4. Discussion

4.1. Summary of findings

Our primary aim was to examine the extent to which intrinsic

Table 6

Means and standard deviations for composite scores and individual items of the intrinsic and extrinsic prosocial motivation scale.

Variable	M	SD
Composite Scores		
Intrinsic Prosocial Motivation	25.05	7.34
Extrinsic Prosocial Motivation	22.54	6.97
Items for Intrinsic Prosocial Motivation		
1. Because it bothers me when I don't.	4.48	1.66
2. Because I care about others.	5.22	1.76
3. Because I would feel bad about myself if I didn't help. or Because I would feel bad about myself if I broke the rules.	4.79	1.77
4. Because I feel good inside when I help others. or Because I feel good inside when I respect rules that are fair.	5.47	1.87
5. Because it makes others feel good.	5.09	1.88
Items for Extrinsic Prosocial Motivation		
6. Because I might get a reward or something for helping. or Because I might get a reward or something.	3.92	1.71
7. Because teachers praise me for being good.	3.90	1.65
8. Because I want other students to think I'm a good person.	4.83	1.95
9. Because I want teachers to think I'm a good person.	5.14	1.95
10. Because teachers will be nice to me. or Because others will help me in return.	4.68	1.65

Note. M = mean; SD = standard deviation; N = 5180. For individual items, each item was used twice; once for each of the two scenarios. However, as indicated in the table, slightly different wording was used for items 3, 4, 6, and 10. The mean for each item represents the mean score for both scenarios.

and extrinsic prosocial motivation is related to students' perceptions of the frequency of their schools' use of praise, rewards, and punitive consequences. We found that students' perceptions of greater use of punitive consequences were associated with slightly less intrinsic prosocial motivation and slightly more extrinsic motivation. This suggests that frequently using punitive consequences to manage student behavior may foster extrinsic prosocial motivation and stifle intrinsic prosocial motivation. However, students' perceptions of the frequency of praise and rewards was not associated with less intrinsic prosocial motivation. Instead, it was associated with slightly greater intrinsic prosocial motivation. In further support of non-harmful effects of praise and rewards, students reported they were much more motivated intrinsically than extrinsically. They were more likely to endorse intrinsic reasons than extrinsic reasons for their prosocial behavior. This was shown in significant differences in composite scores on measures of intrinsic and extrinsic prosocial motivation. Examination of responses to individual items on those measures revealed that the two most common reasons for prosocial behavior were intrinsically based, focusing on helping and caring about others. In contrast, the two least common were extrinsically based, focusing on being praised or rewarded for good behavior.

The above findings are in accordance with researchers who have reviewed the literature and concluded that the common use of praise and rewards in schools fosters prosocial behavior but does not harm intrinsic prosocial motivation (Akin-Little et al., 2004; Cameron & Pierce, 1994; Cameron, 2001). It also is consistent with a recent meta-analysis of the research on effects of incentives on intrinsic motivation at school and work, which concluded that "incentives and intrinsic motivation are not necessarily antagonistic and are best considered simultaneously" (Cerasoli, Nicklin, & Ford, 2014, p. 980). Results showed that both intrinsic motivation and extrinsic incentives enhance performance.

4.2. Why might use of praise and rewards be associated with greater intrinsic prosocial motivation?

Below we offer three likely reasons why we found praise and rewards to be associated with greater, not less, intrinsic motivation: (1) differences in research settings, (2) the manner in which praise and rewards are commonly used in schools, and (3) other factors, particularly teacher-student relationships.

4.2.1. Differences in research settings

It may well be that the conditions that researchers have found to harm intrinsic prosocial motivation in laboratory settings do not often apply in school settings. For example, in most previous studies conducted in laboratory settings, children were presented with "fun" activities of high interest – perhaps the types of tasks for which systematic and frequent use of praise and rewards are seldom applied in schools (Cerasoli et al., 2014). Moreover, conditions were manipulated to investigate the influence of perceived social control on intrinsic motivation. Reviews of such studies (Deci et al., 1999, 2001; Henderlong & Lepper, 2002) concluded that a negative impact on intrinsic prosocial motivation is most likely to occur when rewards are perceived by individuals to be socially controlling and manipulative, similar to the common use of punitive consequences. As such, individuals who were verbally rewarded in a controlling manner (e.g., "you *should* be doing well") showed decreased intrinsic prosocial motivation compared to individuals who received a verbal reward in an informational manner (e.g., "you are doing well") (Ryan, Mims, & Koestner, 1983). This is consistent with the theoretical tenets of moral reasoning and self-determination theories asserting that intrinsic prosocial motivation suffers when students feel compelled to comply with external regulations and when their need for autonomy and competence is not met (Brophy, 2004; Deci & Moller, 2005; Grolnick et al., 1997; Hoffman, 2001).

4.2.2. The manner in which praise and rewards are commonly used in schools

We did not examine the manner in which praise and rewards were used and how students perceived them (e.g., controlling or informative). However, we speculate that whereas students likely perceived punitive consequences as being administered in a controlling and manipulative manner, this was unlikely with the use of praise and rewards. Deci et al. (1999) argue that presenting rewards when they are expected and are contingent on a child's engagement in, completion of, and adequate performance of a task (i.e., controlling manner) is more likely to negatively impact intrinsic prosocial motivation than when delivered simply for participating in a task or presented in an unexpected or surprise manner. Likewise, they argue that highlighting social comparisons when administering rewards, such as announcing winners of the most tokens or praising students for exhibiting desired behaviors lacking in their classmates, impact intrinsic prosocial motivation

negatively. Although the extent to which those conditions existed in the current study is unknown, we suspect they were not uncommon, as public recognitions are often recommended in the SWPBIS approach that was being implemented in schools in this study (Bear, 2010). Nevertheless, despite their likely common use, it appears that praise and rewards are not associated with less intrinsic prosocial motivation. Clearly, future research is needed to investigate the extent to which, and under what conditions and at what ages, students perceive praise and rewards as controlling in school settings, and if such perceptions impact their intrinsic prosocial motivation.

We also did not examine the extent to which teachers may have praised and rewarded not only expected behaviors, but also the cognitions and emotions associated with intrinsic prosocial motivation, such as empathy and social perspective taking that underlie SEL skills such as responsible decision making and social awareness. However, we suspect that many teachers did so, as this was strongly encouraged in SEL-focused statewide trainings on evidence-based practices for the wise and strategic use of praise and rewards. For example, in those trainings teachers were informed that research shows that praising dispositional behavior (e.g., “You’re a caring person”) is more effective than praising observed behavior alone (e.g., “You helped Mary”; Eisenberg et al., 1996). It may be that many teachers in the study praised and rewarded both, fostering intrinsic and extrinsic prosocial motivation. No attempt however was made in the current study to assess the number of teachers and staff participating in those trainings or if those strategies were actually implemented, as the purpose of the study was not to evaluate the effectiveness of those strategies and trainings or to evaluate an integrated SWPBIS/SEL approach.

4.2.3. Other factors, particularly teacher-student relationships

Although this study focused on the use of punitive consequences, praise, and rewards in schools, we recognize that many other factors, both in and out of school, influence prosocial motivation. For example, in light of ample research demonstrating the importance of teacher-student relationships in learning and student behavior (Hughes, 2012; Sabol & Pianta, 2012), it is likely that the quality of teacher-student relationships impacts intrinsic and extrinsic prosocial motivation, which may include moderating the effects of praise, rewards, and punitive consequences on intrinsic and extrinsic motivation. Teacher-student relationships might explain different findings in laboratories versus school settings regarding the impact of praise and rewards on motivation. That is, students in our study received praise and rewards from a teacher (or familiar school staff member) with whom they likely had a positive relationship or at least were quite familiar. In laboratory studies, the individual providing the reward is typically unfamiliar to the student. It is likely that receiving praise and rewards within the context of an ongoing supportive teacher-student relationship and especially when the teacher conveys and reinforces over time the value of intrinsic prosocial motivation would not only enhance the effectiveness of praise, rewards, and punitive consequences but also reduce the likelihood of rewards having any harmful impact on intrinsic prosocial motivation.

4.3. Limitations

Below we discuss four primary limitations of the study: (1) not examining other factors influencing use of praise and rewards, (2) the non-longitudinal and non-experimental design of the study, (3) not distinguishing praise and rewards in our measure, and (4) reliance on self-report data.

4.3.1. Not examining other factors influencing use of praise and rewards

As mentioned previously, many factors are directly and indirectly associated with prosocial motivation. We examined only the frequency of the use of praise, rewards, and punitive consequences, as perceived by students and assessed at only one point in time. We did not examine the conditions under which those techniques were used, including whether they were used in a controlling or informative manner, if social comparisons were highlighted, if they were used to reinforce prosocial behavior that students already exhibited, or if rewards were administered in a contingent or noncontingent manner. In not examining additional factors and specific conditions that might influence the use of praise, rewards, and punitive consequences, it is unclear what accounts for the percentage of variance in prosocial motivation not explained at the school level by the frequency of their use.

4.3.2. The non-longitudinal and non-experimental design of the study

The research design was cross-sectional and correlational, and not longitudinal or experimental. Thus, causal relationships between prosocial motivation and use of positive and punitive consequences could not be examined, nor if effects of those techniques might be cumulative over time. Hence, caution is warranted in concluding that the frequency of use of praise and rewards in schools increases both extrinsic prosocial motivation and intrinsic prosocial motivation or that use of punitive consequences necessarily increases extrinsic prosocial motivation and decreases intrinsic prosocial motivation. Although theory and research reviewed earlier suggest that the frequency of use of punitive and positive techniques influences prosocial motivation, one may well argue that students’ prosocial motivation and behavior influence the extent to which educators use those techniques in classrooms and schools. That is, when students are not motivated to act prosocially and to follow behavioral expectations of adults, punitive consequences are likely to follow. Likewise, when students are poorly motivated, teachers may rely on either greater use of praise and rewards to motivate them, or they may use praise and rewards less frequently because the desired behaviors occur infrequently (and thus praise and rewards is viewed as undeserved).

4.3.3. Not distinguishing praise and rewards

Praise and rewards were treated as one construct and not separately. Treating the two as a single construct was supported by results of confirmatory factor analyses. However, combining praise and rewards precluded examining if the two had different effects on prosocial motivation. According to several reviews (Cameron & Pierce, 1994; Deci et al., 1999), it is the use of tangible rewards, rather than verbal praise, that is most likely to decrease intrinsic prosocial motivation. This is often explained by the typical unexpected and non-controlling nature of verbal praise, which contrasts from tangible rewards that are often expected. However, as noted earlier, both praise and rewards are commonly criticized in the literature (Deci et al., 2001, 1999; Kohn, 1999), and there is research indicating negative effects of praise on motivation (Mueller & Dweck, 1998).

4.3.4. Reliance on self-report data

Data were derived from students’ self-reports, and thus common limitations of self-reports apply. With respect to intrinsic and extrinsic prosocial motivation, the data inform the extent to which students endorse specific reasons for the prosocial behavior but do not tell us if those reasons are necessarily consistent with the observable behavior of students. Likewise, the data on use of praise, rewards, and punitive consequences by adults in the schools were

filtered through the lens of students. As such, it is unknown if students' perceptions of the frequency of use of praise, rewards, and punitive consequences was consistent with the actual frequency of their use. Finally, it is unknown if the use of praise, rewards, and punitive consequences influenced student behavior, as this was not assessed. As noted earlier, research has shown that those techniques, especially praise and rewards, are generally effective in managing behavior of individual students. However, studies also indicate that praise and rewards are much less effective at the classroom level (Brophy, 1981), and are less effective than other classroom management strategies such as developing social and emotional competencies and teacher-student relationships (Korpershoek, Harms, de Boer, van Kuijk, & Doolaard, 2016).

4.4. Implications for use of praise and rewards

Praise, rewards, and punitive consequences are widely used by teachers internationally to manage student behavior (Bear, Yang, Mantz, & Harris, 2017). Despite the limitations above, our findings indicate that greater use of those techniques is associated with slightly greater extrinsic motivation and that greater use of praise and rewards is associated with slightly greater, and not less, intrinsic motivation. We do not question that praise and rewards, and particularly rewards, can be used in a socially controlling manner and thus harm intrinsic motivation, but it may be that they are not commonly used in this manner in most schools, including those that emphasize their frequent use. Regardless what might account for finding a positive relationship between praise/rewards and intrinsic prosocial motivation, results suggest that most schools do not need to worry about the frequent and common use of praise and rewards being associated with less intrinsic prosocial motivation—at least not in the short-term. However, it is unknown if the association is found over time, with negative effects of a steady diet of external rewards accumulating.

Nevertheless, it is recommended that praise and rewards be used wisely and strategically to promote prosocial motivation and behavior both in the short- and long-term. This would include not only using them in an informative and supporting manner but also in other ways recommended by researchers to enhance their effectiveness in promoting prosocial and autonomous behavior and intrinsic prosocial motivation. For example, praise and rewards should be administered contingently for behavior that is difficult or of little interest for a student, while simultaneously recognizing the students' effort and autonomous choice. Administering praise, but especially rewards, in this manner is likely to lessen perceptions of external control (Brophy, 1981; Reeve, 2009, 2015). It also helps support autonomy and an internal locus of control rather than an external desire to obtain a reward or comply with rules (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001; Dweck, 1999; McDevitt & Ormond, 2007; Reeve, 2009, 2015; Weiner, 2006). Their use also should highlight social and emotional competencies demonstrated by students, such as sense of responsibility, autonomy, and control of their emotions and behavior (Brophy, 1981, 2004; Henderlong & Lepper, 2002; Reinke, Lewis-Palmer, & Martin, 2007). Teacher-given praise, and especially rewards, also should be faded as students demonstrate the target behavior or competencies, including intrinsic and extrinsic prosocial motivation. Finally, educators should recognize the multiple functions of praise and rewards beyond that of directly reinforcing desired behavior (Bear, 2010; Brophy, 1981; Solomon et al., 2000). For example, the strategic use of rewards and praise increases the ratio of positive-to-negative interactions that educators have with students and therefore can help to enhance teacher-student relationships (McIntosh, Filter, Bennett, Ryan, & Sugai, 2010). In turn, positive teacher-student relationships enhance the likelihood that students

will internalize the values of their teachers (Hughes, 2012; Wentzel, 2006) and thus not base their future behavior on the salience of rewards and punitive consequences in their immediate environment.

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