Summer 8-29-2016

Examining Motivation to Behave Professionally in a Positive Behavior Support Model

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A thesis submitted to the Department of Education and Human Development of the College at Brockport, State University of New York, in partial fulfillment of the requirements for the degree of Master of Science in Education

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Abstract

Much research has been conducted on the impact that student behavior has on school and student outcomes. Loss of instruction, academic failure, and criminal activity have been linked to anti-social behavior in students. Such behaviors were more likely in schools that used a punitive form of behavior management and unclear expectations. Therefore, it is necessary for schools to teach students how to act professionally so that they are prepared for the demands of college and career. Positive Behavior Support (PBS) is a widely used behavior prevention model that has been shown to be effective in reducing behavior problems in schools. It cannot be overlooked that student motivation plays a role in the choices they make during the school day. This study examined the correlation between students' self-reported motivation and secondary analysis of existing behavioral data. This study found that there was weak to moderate correlation between motivation to behave professionally and actual behavior. Also noteworthy was the correlations between the constructs of Valence, Expectancy, and Instrumentality and actual behavior. The findings suggest that students have stronger correlations with different constructs depending on their behavioral performance.

Keywords: Motivation, Valence, Expectancy, Instrumentality, Positive Behavior Support

Introduction

All teachers deal with disruptive behavior. Some school organizations have adopted systems to address and minimize disruptive behavior. Many organizations have taken the complementary approach of teaching and reinforcing desired behavior. Regardless of the approach that an organization chooses, students' motivation to meet the organization's expectations is key to the success of the approach. This study uses a theoretical model to measure motivation as the product of three constructs; Expectancy, Valence, and Instrumentality.

Purpose

The purpose of this thesis is to compare students' self-reported motivation to behave professionally, as defined by the Paycheck System, with their *actual behavior*, as measured by year-long paycheck average under the Paycheck System. The school where the study occurred uses the Paycheck System, a PBS model, to teach and reinforce professional behavior. This study presents the correlation between self-reported motivation and actual behavior, as defined by the Paycheck System. Vroom's Expectancy Model provided the theoretical framework to measure motivation using the motivational constructs of valence, expectancy, and instrumentality. Valence is the value that students place on learning how to act professionally. Expectancy is the belief that their effort will lead to better paychecks. Instrumentality is the belief that better paychecks will lead to professional behavior.

Literature Review

Positive Behavior Support

While common sense tells us that disruptive behavior is a barrier to student success, studies can also be cited that measure and document this relationship. Costenbader's article described the effects of disruptive behaviors and suspensions (1994). Pas and Bradshaw examined fidelity of implementation and outcomes of PBS models (2012). Bradshaw, Koth, Bevans, and Ialongo detailed the effect of PBS on the organizational health of schools (2008). Horner, Sugai, and Anderson examined the evidence supporting the use of PBS (2010). Bradshaw (2008) provided a summary of several studies, revealing the most common reason for office referrals was disruptive and aggressive behaviors. A current behavior strategy that has been adopted by schools and districts is Positive Behavior Support or Positive Behavior Intervention Support. Horner et al. (2010) noted that PBS is not a new phenomenon, but a synthesis of developments in several fields, including education, mental health, and behavior analysis. Bradshaw (2008) described PBS as:

> A universal, school-wide prevention strategy that is currently implemented in over 7,500 schools across the nation to reduce disruptive behavior problems through the application of behavioral, social learning, and organizational behavioral principles. PBIS aims to alter school environments by creating improved systems and procedures that promote positive change in student behavior by targeting staff behaviors (p. #1).

Other descriptions of PBS vary, but they tend to have the following emphases in common: (a) school wide consistency in implementation; (b) clear expectations and instruction to teach students how to meet those expectations; (c) positive reinforcement of desired behavior; and (d) the use of data to minimize reinforcement of undesired behavior. Another common trend is the use of a tiered system of interventions. PBS employs tiered interventions that are used to teach students appropriate behavior and to ensure a positive learning environment. The first tier of interventions (universal intervention) is chosen to work effectively with at least 80% of the student body. The second tier is used for the 15% of students who may require further intervention, possibly in a smaller group setting. The tertiary tier of interventions is for the remaining 5% of students who are not successful under the first two tiers. This tier requires individualized interventions for high-risk students. The benefits of PBS are documented by several studies. Bradshaw noted such benefits as improved staff perceptions, reduced suspensions and referrals, and improved academics (Bradshaw 2008).

Motivation Theory

There is a great deal of research concerning motivation. Weiner (1990) summarized such research, and stated, "motivation is the study of the use of knowledge rather than the acquisition of knowledge" (p. 618). Thus it can be reasonably concluded that, although motivation and learning are separable, they are nonetheless mutually important to the other.

Motivational Theory became a popular alternative to strict behaviorism in the 1940's. Hull's (1943) Drive Theory was an early theory put forth to add to our understanding of behavior. The major Tenet of Drive Theory is that animals are motivated to behave in a manner that meets inherent psychological needs. Maslow's Hierarchy of Needs categorized innate needs in a hierarchal list to further explain human motivation. Vroom (1964) proposed his Expectancy theory, which set out to explain how and why individuals make choices.

Vroom's theory proposes that people make conscious decisions based on Motivational Force, which is the product of Expectancy, Instrumentality, and Valence. Expectancy is an individual's belief that their effort will result in successful performance (first order outcomes). Instrumentality is individual's belief that their performance will result in attainment of a goal or reward (second order outcome). Valence is the value that an individual places in attainment of a second order outcome. Vroom's model has been empirically shown to be valid, but there is also a need to show the validity of the individual variables used in the model (Francis 2016). Porter and Lawler (1968) expanded Vroom's theory to delineate between intrinsic and extrinsic rewards and to account for individuals' ability and perception of tasks.

Wigfield and Eccles (2000) provided further adaptations to Vroom's model in the Expectancy-Value Theory of Achievement Motivation model. Their theory applied ability beliefs, expectancy of success, and subjective task values to apply expectancy theory to the field of education. They noted that a student's beliefs about their ability played a major role in their motivation. More specifically, the belief that

success is due to ability had a positive impact on motivation while the converse is also true. One major finding was that ability-beliefs declined over students' academic years (Wigfield et al., 2000). They also found a decline in the value students placed in their subjects (measured by interest and importance). Wigfield and Eccles established that ability, beliefs, and value judgments were strong predictors of academic performance. Wigfield (2007), addressing the importance of motivation to achievement in education, stated:

> With respect to influences on behavior, children's motivation relates to their choices about which tasks and activities to do, the persistence with which they pursue those activities, the intensity of their engagement in them, and their performance on them. Depending on their motivation, some individuals approach particular activities with great persistence and enthusiasm, whereas others seek to avoid these activities. Thus, motivation influences the ways in which individuals' do or do not participate in different activities (p. #934).

Clearly, motivation is fundamental to the field of education. Much research has been done to help educators understand the factors that determine a student's motivation level. Furthermore, researchers continue to explore the role motivation plays in academic performance. The current study aims to further the understanding of how a student's motivation is related to their behavioral performance.

Methods

Site of Study

The school represented in this study serves 5th through 8th grade students in an urban setting in upstate New York. Approximately 90% of the student body is of a racial minority. Approximately 80% is eligible for free or reduced priced lunch. The school uses a positive behavior support model called the "Paycheck System." The school teaches students "professional" behavior through orientation classes at the beginning of the year, embedded character lessons, and school-wide assemblies. Teachers reward students with paper "scholar dollars" or by entering scholar dollars directly into the database for demonstrating desired behaviors (Table 1). Students also receive a weekly pay of fifty scholar dollars for attendance. Scholar dollars are used as positive reinforcement of professional behavior.

Table 1: Established Criteria for Earning Additional Dollars in the Paycheck System

Paycheck Additions	
Criteria to Add $1.00	**Definition of Criteria**
Scholarly Vocabulary	Using technical terms in class discussions
Exemplary Effort	Revising written work without being asked
Exceptional writing	Written response goes beyond prompt
Academic Risk taking	Participating even when not confident in correctness of response
Grit	Persevering on tasks despite challenges
Social Intelligence	Offering help to others
Social Intelligence	Encouraging others to stay on task
Social Intelligence	Showing awareness of the needs and feelings of others
Honesty	Presenting oneself genuinely and
Zest	Displaying enthusiasm for learning
Self control	Regulating ones emotions, especially in frustrating situations
Academic Focus	Actively demonstrating the daily objective in a class
Organization	Leaving the environment in a better condition than you found it
HW completion*	Turning in all assignments for the day
Professionalism*	Receiving no deductions in a school day
Perfect attendance*	No tardies or absences for a school week

*Automatic Dollars: These additions are automatically earned for students who meet the criteria.

When students display undesirable, or "unprofessional," behavior, they are given deductions to their weekly paycheck. These deductions are categorized according to types of undesired behaviors (Table 2). Deductions are used as negative reinforcement of unprofessional behaviors. Teachers receive extensive training on how to give actionable and observable directions to students before delivering a deduction. The goal is to teach students the professional way to act in a situation.

Therefore, teachers use directions to separate defiant behavior from incompetent behavior.

Deductions and scholar dollars are tracked by teachers and recorded in a database. At the end of each week, every student is given a paycheck. The paycheck lists the earnings and deductions and weekly total for each student (Table 3 and Figure 1). Each week, students are required to take their paycheck home and get it signed by a parent or guardian. The school leadership team makes policy decisions based on the data acquired through the Paycheck System.

Table 2. Examples of unprofessional behaviors that result in deductions to weekly paychecks.

Paycheck Deductions*	
Amount	**Behavior**
2	Calling Out – student calls out answer or other remark out of turn
2	SLANT** – student does not sit in professional posture
2	Talking – student is talking during independent work or other silent activity
2	Direction – student fails to follow a clear direction
2	Jump to it – student does not follow a direction in a timely fashion
2	Misuse of materials – student uses classroom or personal materials in an inappropriate manner
2	Gum – student is chewing gum or other item during class
10	Repetitive – student repeats a behavior after being given a deduction and direction
10	Inappropriate Response – student responds to teacher or another student in hostile or disrespectful fashion
10	Zero Effort – student refuses to participate or complete classwork
10	Hurtful Action – student uses hurtful language with teacher or other student
10	Absent*** – student is not present by 9:40 am

*Deductions are given only after a student has first been given a clear direction regarding the behavior.

**SLANT is an acronym for Sit up, Listen, Ask and answer questions, Nod for agreement, Track the speaker

***The absent deduction is used as an adjustment to weekly pay, not as a punishment.

Table 3. Example of paycheck details that would accompany a student paycheck.

Paycheck Details			
Date	Earnings (+) or Deductions (-)	**Reason**	**Daily Total**
Fri 5/06	+$50	Weekly pay	
	+$2	MOLE*	
	-$2	Misuse of Materials	$50
Mon 5/09	+$1	Exceptional SLANT	
	-$2	Calling Out	-$1
Tue 5/10	+$1	Scholarly Vocab	
	+$1	Zest	
	+$1	Social Intelligence	+$3
Wed 5/11	+$2	Zero deductions	
	+$2	HW completion	
	+$1	Academic Focus	+$5
Thu 5/12	+$2	Zero deductions	
	+$2	HW completion	+$4
Fri 5/13	+$1	Self control	
	-$2	Talking	-$1
Paycheck Total			$60

*MOLE-Problem solving strategy taught in math classes

Paychecks are used to inform parents and students of the student's behavior for the week. They are often used for teacher-student discussions regarding professionalism and goal setting. They are also used in tertiary interventions for struggling students to incentivize improved behavior.

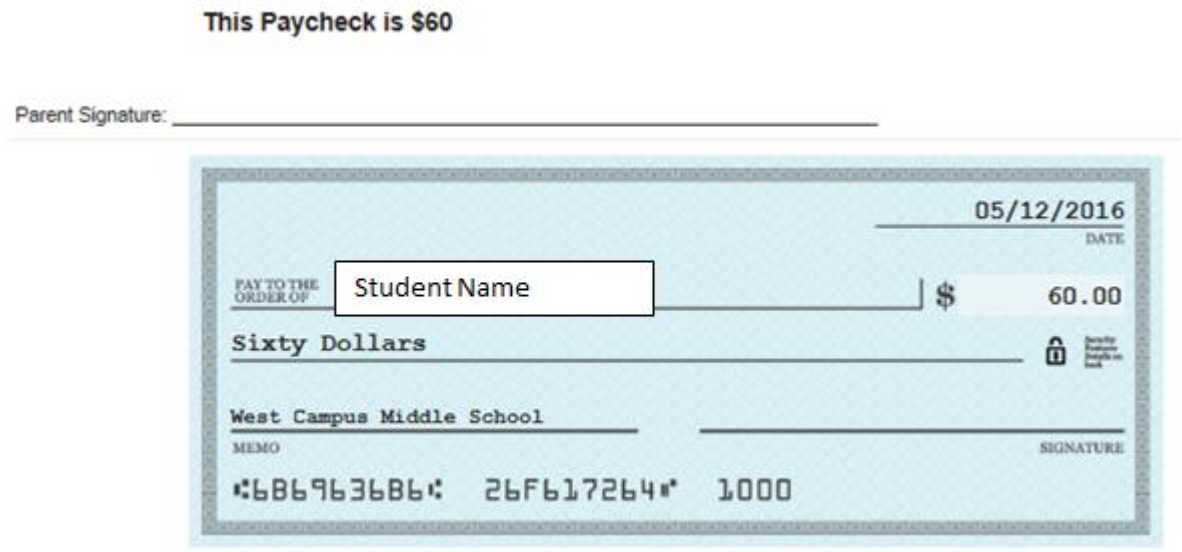

Figure 1. The actual paycheck that follows the paycheck details with space for parent signature.

Participant Population

The population in this study is the student body of the school and the sample in the study is the sixth grade students that obtained consent to participate. Participation in the study was optional and at the discretion of the student and each students' family. All sixth graders received a consent form. To maximize the number of participants in the sample, students who returned signed consent forms (with or without consent), received two peanut butter cups.

The survey was administered in a study hall. Students whose parents consented to their participation received a survey while students whose parents declined consent received an independent activity packet (see Appendix A for the complete survey). Students worked silently and independently during the study hall. The survey items were described by the principal investigator (PI) during

administration of the survey and were collected by the PI. Participating students were assigned a numeric code linking their survey responses to their identifying information. The data from the surveys was sorted into groups based on a secondary analysis of existing paycheck data. The first group represents students who maintained an average paycheck that is less than $50. This group was named "Low Group." The second group, named "High Group," was students who maintained an average of at least $50. Valence, Expectancy, and Instrumentality as well as Motivational Force values were reported.

Variables Used

The variables measured are motivation and paycheck average using the definition of motivation from Victor Vroom's book Work and Motivation, published in 1964. Motivation or Motivational Force is defined by Vroom's theory as the product of Valence, Expectancy, and Instrumentality. Valence values are measured within a range of -1 to 1. A -1 would mean that a student places a maximum negative value on the outcome of behaving professionally. In other words, they see behaving professionally as greatly undesirable. A 1 would indicate that the student places a maximum positive value on the outcome of behaving professionally. Expectancy and Instrumentality are measured within a range of 0 to 1. Paycheck averages will be calculated for each participant as the mean of all their weekly paychecks from the school year.

To measure students' Valence, Expectancy, and Instrumentality, a survey was used. The survey included attitudinal items that assessed Valence, Expectancy, and

Instrumentality around the performance outcomes (first order outcome) of getting "good" paychecks and the goal outcome (second order outcome) of learning to act professionally. "Good" was intentionally left undefined to allow for differences in participant's perception of what is a good paycheck. Typically, a good paycheck would be $35 or higher. This is the level of paycheck that allows students to participate in extracurricular activities and field trips. However, to a student who is struggling with behavior, their perception of a good paycheck may be different from a student who does not struggle with behavior. Each construct had three associated survey items.

Secondary analysis of existing paycheck data was used to determine students' paycheck average. This data measures the behavioral choices that a student actually makes. Each student's paycheck average was the arithmetic mean of all of their weekly paychecks over the course of the school year. The students' paycheck average was then paired with their responses to the survey items.

Findings

This study examines the correlation between self-reported motivation and actual behavior. For the High Group, there was a weak correlation (R=.264) between motivational force and paycheck average. The strongest correlation was between instrumentality and paycheck average (R=.555). The weakest correlation was between expectancy and paycheck average (R=.127).

Table 4. Correlations in High Group for paycheck average and the constructs of Motivational Force, Valence, Expectancy, and Instrumentality.

High Group Correlations with Paycheck Average	
Construct	**Correlation Coefficient, R**
Motivational Force	.264*
Valence	.299*
Expectancy	.127
Instrumentality	.555***

*R values from .200-.299 represent weak correlation, **R values from .300-.399 represent moderate correlation, ***R values from .400-.699 represent strong correlation

In the Low Group, there was moderate correlation between paycheck average and motivational force (R=.313). There was a strong correlation between expectancy and paycheck average (R=.561). The other two constructs did not show a correlation with paycheck average.

Table 5. Correlations in Low Group for paycheck average and the constructs of Motivational Force, Valence, Expectancy, and Instrumentality.

Low Group Correlations with Paycheck Average	
Construct	**Correlation Coefficient, R**
Motivational Force	.313**
Valence	.040
Expectancy	.561***
Instrumentality	-.169

*R values from .200-.299 represent weak correlation, **R values from .300-.399 represent moderate correlation, ***R values from .400-.699 represent strong correlation

For individual survey items (Appendix A), there was a strong correlation with survey item number one, "Learning how to act like a professional is important to me," and paycheck average in the Low Group (R=.579) as well as statistically significant correlation with item number six, "I am getting better at acting like a professional," (R=.781). For the High Group, a strong correlation is present between paycheck average and item number seven, "The Paycheck System helps me learn how to act like a professional," and item nine, "Better paychecks mean I am closer to acting like a professional," (R=.507 and R=.574, respectively).

Table 6. High and Low Group correlations with individual survey items and paycheck average.

High and Low Group Correlations of Paycheck Average with Individual Survey Items

Survey Item†	High Group	Low Group
#1V	.305**	.579***
#2V	.173	-.011
#3V	.137	-.361**
#4E	.262*	.407***
#5E	.128	.180
#6E	-.188	.781***††
#7I	.507***	.079
#8I	.235	-.044
#9I	.574	-.236

*R values from .200-.299 represent weak correlation, **R values from .300-.399 represent moderate correlation, ***R values from .400-.699 represent strong correlation
†Survey items assess Valence (V), Expectancy (E), and Instrumentality (I)
††Statistically significant (2-tailed)

Limitations

This study has several limitations. The sample size was not statistically large (n=30) due to the low number of returned consent forms. Out of 90 students, only 22 returned consent forms. Of those, 20 students chose to sign their assent forms and participate. Furthermore, only two of the participants had a paycheck that was less than $25. Therefore, analysis was limited to two groups, those who had an average of less than $50 and those who had an average of at least $50. At the site of study, a $50 average would be considered a successful or mastery paycheck. An average that is $0 or negative would be considered unsuccessful, while values between would be considered to be developing or proficient. The lack of responses from students with unsuccessful paychecks is a significant limitation in this study. Further research should seek to increase the sample size as well as the number of participants with unsuccessful paycheck averages.

Another limitation was the validity of the survey. When a factor analysis was run on the survey items, the valence items did not hold together, suggesting that the responses did not represent students valence for the goal of "acting professionally" with validity. The instrumentality and expectancy items held together better.

Discussion

For both paycheck groups, there was a weak or moderate correlation between self-reported motivational force and paycheck average. It would appear that students with higher paychecks would report having a stronger motivational force than

students with lower paychecks. Further research should include a statistically large and representative sample to determine if this correlation holds for unsuccessful students as well. Furthermore, participants should receive a more in-depth explanation of the meanings of the survey items to insure the validity of their responses.

It is interesting to note that in the Low Group, the strongest correlation was with expectancy, whereas the strongest correlation in the High Group was with instrumentality. On the surface, this could be interpreted as the Low Group having a stronger correlation with their belief that their effort will lead to better paychecks. The High Group has a stronger correlation with their belief that their successful paychecks will result in them learning how to act professionally. Intuitively, this is reasonable because the students in the High Group have already achieved successful paychecks, therefore they may have less confidence in their increased effort which should result in a higher paycheck. They seem to be more confident that their success in the Paycheck System will lead to their mastery of professional behavior. The responses of the Low Group suggest that they have less confidence that higher paychecks will help them master professional behavior than they have in the belief that their effort will result in higher paychecks.

On the expectancy survey, item #6, 'I am getting better at acting like a professional,' the Low Group had a significant positive correlation with paycheck average. The higher their paycheck average, the more likely they were to report their belief that their behavior was improving. This leads to the conclusion that students

with low paychecks believe that their effort would lead to better behavioral outcomes. Furthermore, interventions should be offered to students in this group to help them see the connection between their effort to be successful in the Paycheck System (expectancy) and their ability to act professionally (instrumentality). Thus their motivational force should increase by increasing their instrumentality beliefs.

On the instrumentality survey, items #7 'The Paycheck system helps me learn how to act like a professional,' and #9 'Better paychecks mean I am closer to acting professionally' had a strong positive correlation in the High Group with paycheck average. Thus the High Group seems to have stronger beliefs about the Paycheck system leading to second order outcomes of professional behavior.

For all participants, the mean valence score (range of -1 to 1) was 0.408. This demonstrates that students did not place a high value on the outcome of professional behavior. The practical implication of this finding is that more work needs to be done under the Paycheck System to either teach students the value of professional behavior or to redefine professional behavior within the Paycheck System. According to Vroom's theory, if students report low valence in professional behavior, their motivation will subsequently suffer.

In summary, this study did show a positive correlation with student's self-reported motivation and actual behavior. However, there was a large range in the correlations between different constructs and paycheck average, as well as between individual survey items within the same construct. It is interesting to note that students in the High Group were more likely to have stronger correlation between

instrumentality items and paycheck average while Low Group students were more likely to have stronger correlation with expectancy items. As a result of this study, the author would suggest redoubled efforts in teaching students the value of professional behavior and how their behavior under the paycheck system can lead to professional behavior. The author also sees a need to study how individual teachers implement the paycheck system in their classes and what effect this has on student motivation. Further research should be conducted to examine the correlation with the lowest performing (behaviorally) students and motivation. Additionally, it would be helpful to investigate causal relationships between motivation and behavioral performance.

Appendix A

Motivation Survey

Directions: For each statement, choose how much you agree by darkening the appropriate bubble.

For example,

Strongly Disagree — Strongly Agree

Ex: I like it when my mom takes me out to dinner.

Ex: I feel good when I fail a math test.

Now it's your turn! Fill in the appropriate circle on your bubble sheet.

1. Learning how to act like a professional is important to me.
2. My life will be better if I learn how to act like a professional.
3. Getting a good paycheck is important to me.
4. Eventually, I will learn how to act professionally.
5. Eventually, I will get good paychecks.
6. I am getting better at acting like a professional.
7. The Paycheck System helps me learn how to act like a professional.
8. I can getter paychecks if I try.
9. Better paychecks mean I am closer to acting professionally.

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