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Trophies, Plaques, and Rewards: An Application of Cognitive Evaluation Theory to Volunteer Motivation.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

By

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ABSTRACT

TROPHIES, PLAQUES, AND REWARDS: AN APPLICATION OF COGNITIVE EVALUATION THEORY TO VOLUNTEER MOTIVATION.

John H. Kim

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Using Cognitive Evaluation Theory, this research evaluated the impact non-monetary extrinsic incentives in the form of department t-shirts had on the intrinsic motivation of Virginia career and volunteer firefighters. Intrinsic motivation was measured using the Work Extrinsic and Intrinsic Motivation Scale (WEIMS). The survey was administered to a randomly selected sample of firefighters. Data was analyzed using multiple regression analysis. Results suggested that the department t-shirt did not have a statistically significant impact on intrinsic motivation of both career and volunteer firefighters. Additionally, this study suggested that volunteer firefighters did not perceive salary as an inequitable reward. This was exhibited by the higher levels of intrinsic motivation by volunteer firefighters than career firefighters. This was also found in the comparisons of volunteer firefighters from combination and volunteer fire departments. Finally, delays in the distribution of non-monetary extrinsic incentives did not have an impact on intrinsic motivation of both career and volunteer firefighters.

CHAPTER I: INTRODUCTION

Introduction

The motivation of employees has always been an important area of study for organizations (Plate & Stone 1974; Gibbs 1980; Mason-Smith 1999; Ryan & Deci 2000; Ballentine, McKenzie, Wysocki, & Kepner 2003; Rainey 2003; Grant 2008; Lei 2010). By definition, motivation can activate, energize (Kleinginna & Kleinginna 1981; Huitt 2001), and persist (Franken 1994) certain types of desirable behavior. Huitt (2001) believes that learned behavior can only take place if motivated or energized. Organizations seek to maximize on the individual's motivation by conditioning certain types of desired behavior such as timeliness, responsibility, and leadership. Therefore, many organizations continuously seek ways to increase and maintain motivation.

Additionally, at the organizational level, motivation is central to job satisfaction (Plate & Stone 1974; Bishay 1996; Rainey 2003; Alshallah 2004). As an individual is more motivated for a particular job or activity, he or she tends to become more satisfied by the experience. Including or removing factors that motivate the individual can result in job satisfaction or dissatisfaction, which can ultimately affect performance (Behling, Labovitz, & Kosmo 1968; Rainey 2003). While the link between job satisfaction and performance has been debated as important (Petty, McGee, & Cavender 1984; Ahmadi & Alireza 2007) versus unimportant (Pinder 1998), most researchers acknowledge the impact of motivation and job satisfaction to employee absenteeism and turnover. Therefore, while job satisfaction may or may not affect performance, it has been shown to affect more negative habits of employees.

For “normal” careers, job satisfaction is central to the employees’ “love” and dedication to their job (Ahmadi & Alireza 2007). However, job satisfaction is doubly important for

individuals engaging in dangerous, yet necessary tasks (Grant 2008). An immediate example is service in military positions. With the constant hazard of injury or death, motivation and job satisfaction is central to any military career (Alpass, Long, Chamberlain, MacDonald 1997; Becker, Gerngross, & Schwab 2005). Another example is the profession of firefighting.

Firefighting is a unique public service in that it is viewed as essential to communities, is dangerous work, and is often staffed with volunteers (Grant 2008; BLS 2010). Each year, thousands of citizens are faced with fire-related incidents in their communities. For instance, the *Virginia Department of Fire Programs* (VDFP) reported a steady increase in fire-related incidents over the last five years in Virginia (VDFP 2010). And while more than ten years ago, the blaring image of firefighters rushing into the World Trade Center is still fresh in the mind of most Americans.

Similar to military professions, firefighters endure the constant hazard of injury or death. According to the *VDFP*, fire service injuries have also steadily increased in the last three years (VDFP 2010). Yet despite the occupational hazard, hundreds of thousands of individuals seek to become either career or volunteer firefighters each year. The explanation, according to the literature, is the motivation and job satisfaction of volunteer firefighters exceeds the potential risks associated with the position (Perkins & Metz 1988; Thompson III & Bono 1993; D'Intino 2006; Green 2009).

However, there seems to be a small, yet steady decrease of volunteer firefighters, which account for the largest segment of firefighting personnel, over the past twenty years (Jacobs 1976; Perkins & Metz 1988; Stocker 2005; D'Intino 2006; Green 2009). The National Fire Protection Association provided the following table.

Graph 1 – Number of Firefighters

Table 2.
Number of Firefighters in the U.S., 1986-2011

Year	Total		Career		Volunteer	
	Number	Rate per 1,000 People	Number	Rate per 1,000 People	Number	Rate per 1,000 People
1986	1,045,950	4.35	237,750	1.73	808,200	7.88
1987	1,060,000	4.36	243,200	1.73	816,800	8.05
1988	1,040,750	4.25	252,500	1.77	788,250	7.77
1989	1,020,700	4.12	250,600	1.75	770,100	7.45
1990	1,025,650	4.11	253,000	1.73	772,650	7.56
1991	1,033,600	4.09	261,800	1.73	771,800	7.61
1992	1,058,300	4.14	253,000	1.72	805,300	7.34
1993	1,055,050	4.09	259,650	1.73	795,400	7.25
1994	1,073,600	4.12	265,700	1.76	807,900	7.19
1995	1,098,850	4.18	260,850	1.70	838,000	7.42
1996	1,081,800	4.07	266,300	1.74	815,500	6.98
1997	1,079,050	4.03	275,700	1.73	803,350	7.12
1998	1,082,500	4.00	278,300	1.70	804,200	7.18
1999	1,065,150	3.90	279,900	1.69	785,250	6.93
2000	1,064,150	3.86	286,800	1.64	777,350	7.25
2001	1,078,300	3.85	293,600	1.70	784,700	7.04
2002	1,108,250	3.89	291,650	1.68	816,600	7.12
2003	1,096,900	3.77	296,850	1.67	800,050	7.05
2004	1,100,750	3.76	305,150	1.71	795,600	6.88
2005	1,136,650	3.82	313,300	1.68	823,350	7.30
2006	1,140,900	3.81	316,950	1.74	823,950	7.26
2007	1,148,800	3.81	323,350	1.74	825,450	7.29
2008	1,148,850	3.81	321,700	1.73	827,150	7.01
2009	1,148,100	3.81	335,900	1.72	812,150	7.27
2010	1,103,300	3.57	335,150	1.53	768,150	6.59
2011	1,100,450	3.54	344,050	1.53	756,400	6.37

Source: NFPA Survey of Fire Departments for U.S. Fire Experience (1986-2011).

The graph shows a steady decrease among career and volunteer firefighters within the last five years. Ignoring the rate per 1,000 people statistic, the decrease in actual firefighters is apparent. While there are many potential reasons for the steady decline, threats to their job satisfaction may be contributing to their recent decline (D'Intino 2006). One possible explanation to their decline is an organization's leadership issues and their use of incentives to alleviate burnout and impact retention. Therefore, careful examination should be placed on the

use of these incentives and whether they contribute to the firefighters' decreasing job satisfaction and increased turnover.

Because volunteer firefighters offer a multi-billion dollar a year service (D'Intino 2006), effective management and retention of this population is becoming a public policy priority for many local governments. Experts have offered a variety of explanations to explain the volunteer decline. Some have suggested Occupational Safety and Health Administration (OSHA) standards (Stocker 2005) to increasing training requirements (Green 2009). However in 1998, the National Volunteer Fire Council and U.S. Fire Administration reported that "leadership issues was the most important problem for retention across the country" (D'Intino 2006, 6). Leadership has also been attached to organizational retention in previous studies (Easley 2006; Duffield, Roche, Blay, & Stasa 2011). A component of the relationship between leadership and retention is the focus placed on financial benefits and recognition incentives be it trophies, certificates, or verbal rewards (El-Jardali, Merhi, Jamal, Dumit, Mouro 2009) to satisfy and reward their employees in an effort to facilitate retention. Some of the literature suggests that leadership's use of incentives could be an effective tool to alleviate burnout and impact retention rates (Pucella 2011). This was supported in a survey of Pennsylvania volunteer firefighters. D'Intino (2006) found that respondents "strongly agreed that incentives would encourage firefighters to join or remain active in the VFC" (14).

Problem Statement - *The increasing use of non-monetary extrinsic incentives to reward employees and volunteers without an evaluation of the rewards potential impact may reduce intrinsic motivation and ultimately productivity.*

Background

As made evident by continuing change of management styles, managers and scholars are still unclear on the best methods to manage and motivate. Motivated by New Public Management (NPM), some of the recent focus of management reforms has been placed on monetary incentives or other tangible rewards to condition employee behavior, which is central to economics (Benabou & Tirole 2003; Houston 2009). NPM is a market-based model that seeks to mirror private sector performance management including the extensive use of rewards (Box, Marshall, Reed, & Reed 2001). These types of rewards are typically referred to as extrinsic rewards because they are “external” to the individual (Gibbs 1980; Frey & Oberholzer-Gee 1997; Ryan & Deci 2000; Huitt 2001). They typically include monetary or other tangible benefits. At the organizational level, extrinsic rewards are normally manifested in pay-for-performance programs, salary bonuses, commissions, or instant cash rewards.

The reliance on market mechanisms is largely attributed to the fact that many managers and policy makers believe human behavior is extrinsically rather than intrinsically, or “within the individual,” motivated (Deci 1971, 1972; Frey & Jegen 2001). This belief is empirically rooted in two influential theories: operant conditioning (Deci, Koestner, & Ryan, 1999; Artiga 2010) and principal-agent theory (Houston 2009). Operant theory, coined by behaviorist B.F. Skinner, suggests that learning occurs through rewards and punishments for behavior (Rainey 2003; Spira & Edelstein 2007; Artiga 2010). Discussed in more detail in chapter 2, operant conditioning has been primarily used to test learning in animals, but has also advocated for the use of rewards in human learning and conditioning.

More recently and more complex, the principal-agent theory, also discussed in more detail in chapter 2, suggests that raising incentives will automatically raise performance (Douglas, 1989; Frey & Jegen, 2001; Kunz & Pfaff, 2002). Principal-agent theory assumes there

are two opposing forces, principal (rewarder) and agent (rewarded), each with potentially conflicting objectives. Because there are various costs associated with attempting to control the agent, the principal must manipulate incentives to gain leverage on the agent (Poth & Selck 2009). The principal will offer an extrinsic reward such as pay or certificates to motivate the agent to act in the best interest of the principal and minimize the “moral hazard” (Dixit 2002). The assumption is that agents such as government employees will respond to extrinsic incentives (Houston 2009). Thus giving justification for extrinsic reward programs such as the extended use of pay-for-performance in public agencies since 1978 (Milkovich & Wigdor, 1991).

Heavy reliance on principal-agent theory, operant conditioning, and a distrust of intrinsic motivation has contributed to managers’ dependency on market mechanisms despite a failure of pay-for-performance type programs in the public sector (Bowman 2010; Weibel, Rost, & Osterloh 2010). Other reasons for a reliance on market mechanisms include the difficulty to define and measure intrinsic rewards (Frey and Jegen 2001) and extrinsic rewards’ ease of implementation (Houston 2009). Kellough & Lu (1993) even believe that market mechanisms are attractive to employers. Extrinsic rewards require little effort on the part of the manager to understand complex concepts such as intrinsic motivation and personnel management. The heavy dependency on extrinsic rewards has become a staple in organizational management and continues to be the *modus operandi*.

Within the last 40 years, however, the effectiveness of the extrinsic rewards such as “money, gold stars, and certificates” (Deci, Koestner, & Ryan, 2001) have come under scrutiny. This is largely attributed to the finding that extrinsic rewards can “crowd out” or decrease intrinsic motivation and reduce performance by replacing an individual’s intrinsic motivation with extrinsic motivation (Deci 1971; Lepper, Greene, & Nisbett 1973; Deci & Ryan 1985; Deci,

Koestner, & Ryan 1999; Frey & Jegen 2001; Medic, Mack, Wilson, & Starkes 2007). This effect is also referred to some as the “crowding effect” (Frey & Jegen 2001). The findings from the cognitive school of psychology suggest that extrinsic rewards such as monetary incentives (Deci 1971, 1972) or symbolic rewards (Lepper, Greene, & Nisbett 1973; Wan & Chiou 2007) will reduce the performance of the agent by decreasing their autonomy and their desire to engage in the activity. The agents view these extrinsic rewards as controlling and their initial interest in the task is replaced with their desire to obtain the extrinsic reward. In theory, extrinsic rewards take away the individual’s responsibility for motivating themselves (Frey & Jegen, 2001) by reducing their intrinsic motivation.

Intrinsic motivation, defined as engaging or performing an activity when the individual receives no apparent reward except the activity itself (Deci 1971; Ryan & Deci 2000), is important because it has been associated with several factors of successful job performance including competence (White 1959), personal causation (deCharms 1968), self-determination and autonomy (Deci & Ryan 1985), and citizenship (Houston 2009). Ryan and Deci (2000) also state, “perhaps no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend and exercise one’s capacities, to explore, and to learn” (70). Some scholars have even emphasized the importance of intrinsic rewards over extrinsic rewards (Fair & Silvestri 1992; Carton 1996; Lei 2010). Intrinsic motivation is understandably important for paid employees. In theory, intrinsic motivation is the separating factor that motivates an individual to stay late at work “off the clock” or volunteer for unpaid tasks (Houston 2009).

However, intrinsic motivation is more important, if not of greatest importance, to volunteers. Intrinsic motivation has been found to be central to volunteer time and desire

(Finkelstien 2009). By definition, intrinsic motivation describes the volunteer experience. Haski-Leventhal (2009) defines volunteerism as “an activity that is done completely of one’s free will, with no material rewards whatsoever, to complete strangers, and within an organization or as long-term behavior (272). This definition also accurately describes Deci’s (1971) concept of intrinsic motivation of deriving enjoyment from the activity itself. Intrinsic motivation is also critical for “dangerous” positions such as emergency management personnel or firefighting (Pearce 1983). With the obvious absence of monetary extrinsic rewards, volunteer firefighters must derive meaning from the activity itself, which is typically the desire to help others (Thompson III & Bono 1993). Grant (2008) also suggested a link between prosocial behavior or the desire to help others and firefighters.

From an organizational standpoint, intrinsic motivation is the only currency volunteer-heavy organizations can “offer” employees. Without the benefit of monetary extrinsic rewards due to financial constraints (Deadrick & Scott 1987; Houston 2009), volunteer organizations such as volunteer fire departments must highly value and properly manage intrinsic motivation. Much of this is due to the fact that volunteers with high intrinsic motivation “are more satisfied and less likely to leave their organizations” (Pearce 1983, 650). However, with the steady decline of volunteer firefighters over the past decade, the reward administration practices of these organizations must be reevaluated. If extrinsic rewards are affecting the intrinsic motivation of volunteer firefighters and therefore, contributing to employee turnover, it could be tragic for many financially stricken local governments. Especially since these volunteer firefighters save local governments billions of dollars each year (Brudney & Kellough, 2000; D’Intino 2006; Santana 2009). Perkins (1987) believes volunteer services such as volunteer fire departments are a service the public is unwilling and unable to afford.

Support for the Research Question

The review of the literature largely supports the undermining effect of extrinsic rewards (Rummel & Feinberg 1990; Wiersma 1992; Tang & Hall 1995; Deci, Koestner, & Ryan 1999; Benabou & Tirole 2003). With the exception of Cameron and Pierce (1994) and Eisenberger and Cameron (1996), who reported no overall reward effect on free choice behavior (Deci, Koestner, & Ryan 1999, 632), the rest of the literature generally supports the undermining ability of extrinsic rewards. The majority of the literature focuses on the decreasing effect of expected monetary extrinsic incentives on intrinsic motivation (Deci 1971, 1972; Deci & Ryan, 1985; Deci, Koestner, & Ryan 1999; Medic, Mack, Wilson, & Starkes 2007). This is mainly based on Deci's (1971, 1972) experimental laboratory model of announcing and offering monetary extrinsic incentives to participants. Researchers have replicated Deci's experiments using the same model and the same free-choice measure of intrinsic motivation. Also in their meta-analysis, Deci, Koestner, and Ryan (1999) concluded that money was more controlling than symbolic rewards. Money has also been the focal point of many studies due to its popularity as a reward mechanism in private sector organizations such as "spot awards," cash bonuses, and salary raises.

However, the literature also suggests people can and do engage in a behavior for non-monetary extrinsic rewards (Deci, Koestner, & Ryan 2001) such as plaques, trophies, and certificates, which could also undermine the intrinsic motivation of an individual. Yet the majority of studies on intrinsic motivation have focused on expected monetary extrinsic incentives (Deci 1971, 1972; Jordan 1986) instead of expected non-monetary extrinsic incentives. In Deci, Koestner, and Ryan's (1999) meta-analysis, regarded as the "best available survey on the phenomenon" (Frey & Jegen 2001), they only made the distinction between

tangible (monetary and non-monetary) and verbal (non-tangible) rewards. Moreover, they grouped non-monetary extrinsic incentives such as certificates in the tangible category. By grouping monetary and non-monetary extrinsic incentives together, it is difficult to evaluate the impact of non-monetary extrinsic incentives independently. The undermining effect of non-monetary extrinsic incentives on intrinsic motivation has been rarely studied as a singular reward administration particularly in field settings.

Secondly, while monetary extrinsic rewards may be more controlling, non-monetary extrinsic rewards are more heavily utilized in the public and non-profit sector because of financial constraints (Deadrick & Scott 1987; Houston 2009). Non-monetary extrinsic incentives are especially important for volunteer organizations that may be able to reward employees with certificates, trophies, or recommendation letters. Gold stars, best-student awards, certificates, trophies, honor roles, and pizzas for reading (Deci, Koestner, & Ryan 2001), which are highly utilized in the public and non-profit sector, may have a similar effect on intrinsic motivation (Lepper, Greene, & Nisbett 1973; Deci 1995; Deci, Koestner, & Ryan 1999). Further, some researchers have stressed the importance of non-monetary extrinsic rewards. Pandey and Stazyk (2008) believe non-monetary extrinsic rewards may be more important than monetary ones.

Non-monetary extrinsic incentives were not heavily considered until Lepper, Greene, and Nisbett (1973) tested the theory using a certificate with a gold seal and ribbon. Their experiment suggested the similarity between symbolic and monetary extrinsic rewards' ability to reduce intrinsic motivation. Subsequent studies have used employee of the month awards (Weatherly 2002), course credits (Gibbs 1980), and university pens (Selart, Nordstrom, Kuvaas, & Takemura 2008). Still, the bulk of studies on the relationship between extrinsic rewards and intrinsic motivation since Deci's (1971) initial experiment focus on the use of monetary extrinsic

rewards such as athletic scholarships (Medic, Wilson, & Starkes 2007) and online currency (Wan & Chiou 2007). Because of the inability to sustain large or even medium sized monetary extrinsic rewards for extensive periods of time, these studies do little in informing the public and non-profit sector particularly those in volunteer management.

Purpose of the Study

This study explored the relationship between intrinsic and extrinsic non-monetary rewards. The intent was to address the overall research question:

Do non-monetary extrinsic incentives reduce the intrinsic motivation of career and volunteer firefighters in Virginia?

The primary goal of this study was to evaluate the relationship between non-monetary extrinsic incentives and intrinsic motivation of career and volunteer firefighters in Virginia. Their high initial intrinsic motivation is important because populations with low to medium initial intrinsic interest levels will not experience an undermining effect of extrinsic rewards (Deci, Koestner, & Ryan 1999; Bertelli 2005).

Secondly, the goal of this study was to contribute to the field of understanding of the undermining effect of extrinsic rewards by providing a field study on public services. The majority of the literature available used laboratory settings similar to the initial Deci (1971, 1972) experiment. However, there are few field experiments on the effect (Jordan 1986; Prendergast 1999; Frey & Jegen 2001). While lab experiments offer a good foundation for the study of a phenomenon, Pearce (1983) states, “most laboratory experiments provide few opportunities for meaningful social contact, and such tasks as copying sheets of random numbers or solving puzzles (i.e. Deci, 1971) cannot be reasonably regarded as services to others” (651). Lab studies may also skew the results due to the research environment as participants know they

are being observed and will act differently (Gray 2006). Therefore, it was important to conduct a field study on the effect to measure the real world impact of non-monetary extrinsic rewards.

Third, the field studies available on the impact of extrinsic rewards on intrinsic motivation do not focus on public agencies that mix career and volunteer staff such as fire departments. A few field studies have focused on public agencies (Bertelli, 2005) or only volunteers (Fiorillo, 2007; Millette & Gagne, 2008). However, there has been little research on volunteers that essentially perform the same duties as the paid personnel. Gibbs (1980) defines this as “reward equity.” According to Gibbs (1980), individuals will “compare their input/output ratio against others’ input/output ratio who are engaged in a similar task or job” (10-11). The study of fire departments will allow for a better understanding of the effectiveness of various reward structures on volunteer personnel in public agencies with reward equity groups.

A related purpose of the study was to provide additional information on fire departments. In reviewing the literature, there were surprisingly few studies on career and volunteer firefighters not conducted by the U.S. Fire Administration (USFA) or the Virginia Department of Fire Programs (VDFP). As with most public services, accurate statistics on firefighters were easy to obtain, but academic research on these statistics seemed few. While there are discussions on the demographics of fire departments (e.g. Perkins & Metz, 1988), there is little available on the motivation and reward structures in fire departments. D’Intino (2006) found that “VFCs (Volunteer Fire Companies) and firefighters desire public recognition and appreciation” (9). He goes on to mention, “Most states listed various recognition programs, but little is known about their impact on volunteer recruitment and retention (9).” Thompson III and Bono (1993) conducted an in-depth study on volunteer firefighters and their intrinsic motivations. However, they based their study largely on the theory of alienation and the firefighters’ need to integrate

socially. They made little mention about what external reward structures were available and even more importantly, how firefighters would respond to them. This is alarming considering the essential service that firefighters provide to the community. Additionally, a study on these departments could provide research direction on studying and managing other agencies.

Significance of the Study

Nearly every manager interested in organizational behavior is intrigued by the concept of motivation (Deadrick & Scott 1987; Ryan & Deci 2000; Casey & Robbins, 2008; Grant 2008). However, few managers of both public and private agencies consider the importance of intrinsic motivation in overall production (Gneezy & Rustichini, 2000). Some, such as economists, argue extrinsic rewards are more important (Frey & Jegen 2001; Murdock 2002) while others state that intrinsic motivation is more difficult to measure (Brostek 2000). Because of the proposed link between intrinsic motivation and performance, this study is important to employee management, particularly among public and non-profit agencies. The results of this study, however, could be important for managers of both public and private agencies.

Intrinsic motivation has been found to be extremely important to performance (deCharms 1968; Deci & Ryan 1985; Gibbs 1980; Deci, Koestner, Ryan 1999). Houston (2009) believes intrinsic motivation is central to creativity and innovation, cooperation and employee citizenship, which is the employee's desire to accept additional tasks without pay and fully commit themselves to every task. The literature reviewed consistently agrees on the importance of intrinsic motivation particularly to job satisfaction and production (Deci & Ryan 1985; Rummel & Feinberg 1988; Wiersma 1992; Tang & Hall 1995; Deci, Koestner, & Ryan 1999; Huang & de Vliert 2003). Therefore, factors that may grossly affect intrinsic motivation should be studied and resolved.

The management of intrinsic motivation is also important to organizations that rely on volunteer labor. These organizations exist and operate because of the volunteers' intrinsic motivation. However, the reward and its administration may be affecting the retention of these volunteers despite D'Intino's (2006) finding that firefighters would respond positively to incentives. While some organizations can afford to recruit new volunteers, for high-hazard volunteer labor like firefighters, turnover is less desirable and potentially more costly.

While the importance of intrinsic motivation is recognized, with the increased focus of pay-for-performance programs, the use of extrinsic rewards is becoming more commonplace in many organizations. The ease of implementation for extrinsic rewards makes them attractive options for many managers. However, governments and non-profit organizations normally handcuffed by limited budgets and resources (Deadrick & Scott 1987; Dixit 2002; Houston 2009) must turn to other extrinsic rewards such as non-monetary extrinsic incentives. However, the mismanagement of these rewards may also result in decreased intrinsic motivation (Lepper, Greene, & Nisbett 1973).

Another issue of utilizing monetary extrinsic incentives in public and non-profit sector agencies is the criticism that these officials should not receive money for jobs they already do (Deadrick & Scott 1987). Especially in poor economic conditions, managers in public sector and non-profit agencies are unlikely to turn to monetary rewards to motivate employees and volunteers. These managers may, however, turn to non-monetary extrinsic incentives as a possible solution. While the literature available has not carefully evaluated the impact of these types of incentives, this has not stopped public and non-profit agencies from heavily using them in the forms of employee of the month certificates, pizzas for reading, and plaques.

Due largely to NPM, the administration of non-monetary extrinsic incentives may closely follow the monetary model of principal-agency theory. However, if non-monetary extrinsic rewards such as certificates are administered in a similar manner, it could be detrimental to employee performance. The literature suggests that expected extrinsic rewards, monetary and non-monetary, will almost always undermine the intrinsic motivation of the employee or volunteer (Deci 1971; Lepper, Greene, & Nisbett 1973; Deci & Ryan 1985; Deci, Koestner, & Ryan 1999; Frey & Jegen 2001; Medic, Mack, Wilson, & Starkes 2007). In government and non-profit agencies, this may result in poor performance, employee dissatisfaction resulting in poor morale, or even employee turnover just as it did in the private sector (Houston 2009). Some organizations, such as those that rely on volunteers, may not be able to sustain high levels of turnover from its employees.

While the study of the effect of extrinsic rewards is important to paid personnel, it is especially important to volunteers and non-profit agency employees that rely heavily on intrinsic motivation. It is estimated that more than 23 million people volunteer each year and they save the government roughly \$55.1 billion dollars a year (Brudney & Kellough, 2000). The National Volunteer Fire Council (NFVC) reported that annual savings of volunteer firefighters are roughly \$37 billion (Santana 2009). The mismanagement of extrinsic rewards such as monetary and non-monetary extrinsic incentives could jeopardize the use of important city services such as emergency medical service and firefighting. A study conducted by the Commonwealth of Pennsylvania revealed that staffing 2,000 fire companies would cost municipalities about \$2.2 billion (D'Intino 2006, 7) in Pennsylvania.

Firefighters

The choice to study volunteer firefighters was borne largely out of the findings of Deci, Koestner, and Ryan (1999). Deci et al (1999) found that Cognitive Evaluation Theory (CET) is only applicable to activities that are deemed interesting by the participants. In their study to disprove CET, Cameron and Pierce (1994) used “dull and boring” tasks. Deci et al (1999) found that using boring and dull tasks do not threaten the sense of individual utility as the task itself does not have a motivating element of its own. More simply, if an individual will not volunteer for an activity, it may not have a motivating element to be affected by extrinsic rewards.

U.S. Municipal firefighting is a difficult and complex position (Grant 2008) that requires a high level of intrinsic motivation. Perkins and Metz (1988) found that 82% of the sample ranked being a volunteer firefighter of highest importance and 75% of the sample indicated that they seldom or never considered quitting. Firefighters must be well trained in a number of different areas including safety, service, and even medical treatment. Firefighters endure difficult conditions that are potentially life-threatening. They provide services to the community such as morale building and remain “pillars of the local community” (Simpson 1996, 18). The majority of firefighters also happen to be volunteers that perform the same duties as career firefighters.

The National Fire Protection Association (NFPA) reported that the number of volunteer firefighters has decreased significantly since the 1980s. According to the *NFPA Survey of Fire Departments for U.S. Fire Experience (1983-2005)*, volunteer firefighters have decreased from 884,600 in 1983 to 823,350 in 2005. D’Intino (2006) confirmed this decrease. D’Intino (2006) goes on to mention, “Explanations for declines in volunteer firefighters have been attributed to national social changes, difficulties in finding new volunteers, and problems with retaining existing volunteers” (6). It is important to note that according to the USFA, from 2005 to 2008,

there has been a steady increase in volunteer firefighters each year. Whether this trend continues remains to be seen (D'Intino 2006).

Volunteer firefighters are unique due to the often high level of intrinsic motivation necessary for the position. Nearly all volunteer firefighters are ordinary residents that plan and initiate a benefit for their communities (Simpson 1996). The nature of the work is intrinsically motivating and provides individual utility (Thompson III & Bono, 1993). Volunteer firefighters normally have few extrinsic benefits in the form of monetary incentives. It is unclear how many non-monetary rewards they receive as research on firefighters is scarce. It is a hope that this study will provide information on how volunteer firefighters are rewarded.

One reward that volunteer firefighters often experience is a sense of community and solidarity (Perkins & Metz, 1988; Thompson & Bono, 1993). In a study of Virginia VFD's, Perkins and Metz (1988) found that 79% of the 372 firefighters surveyed indicated that the majority of their close friends were fellow firefighters. There is also a sacred community in VFDs. Many compare volunteer firefighting to be of equal or greater importance than church membership (Perkins & Metz, 1988). The non-competitive nature of the position to attack a problem together builds a sense of fraternity. Another potential reward that firefighters may receive is the adrenaline rush of entering a potentially life-threatening situation. Simpson (1996) believes that some firefighters crave this rush. For many firefighters, this rush is a large intrinsic motivator as well.

In another study, D'Intino (2006) found that volunteer firefighters received varying types of benefits. D'Intino found that benefits were group into five categories: workers' compensation, death benefits, retirement pension, property or income tax rebates, and health care benefits (8). However, these benefits are not enough to maintain volunteer firefighters. Among

the 11 factors that have contributed to reductions in the number of men and women joining and remaining in the volunteer fire service, leadership problems was one of the more prevalent themes. Citing a 1998 National Volunteer Fire Council and U.S. Fire Administration report, *Retention and Recruitment: Problems and Solutions*, D'Intino (2006) reported that "leadership issues" was the "most important problem for retention across the country" (6). Citing an unpublished State University of New York at Buffalo study, D'Intino (2006) believes that lack of leadership and management skills as a cause for retention issues in VFC might be worthy of further investigation (7). Leadership issues were reintroduced in a 2007 study by the U.S. Fire Administration. They suggested leadership issues included "lack of coordination, authoritative management style, and failure to manage change" (7). They go on to say that "effective leadership helps retain members as well as reduce dissatisfaction. Ineffective leadership is the most common reason for a decline in membership" (15).

A popular tool for leadership is the use of monetary incentives. The U.S. Fire Administration commented that "the number of volunteer departments that provide some form of a direct monetary incentive is increasing" (101). Examples of these incentives include cash bonuses, business discounts, and gift certificates (108). Other incentives utilized by fire departments include physical fitness facilities, free movies at stations, and department paraphernalia. Regarding department clothing, the U.S. Fire Administration explains that "many departments tie the distribution of uniform items either to length of service or to training/certification levels, or both" (111). These types of non-monetary incentives are becoming increasingly popular. Interestingly, D'Intino (2006) also found through interviews that "non-financial incentives are more effective at motivating and retaining volunteer firefighters than

financial benefits. A common opinion was that financial benefits do not motivate volunteers” (9). However, this point was not expanded in the study.

The high level of intrinsic motivation and service make firefighters an appropriate population for studying the effects of external interventions. Many of the failures of previous experiments on the undermining effect of extrinsic rewards are due to the low level of initial intrinsic motivation (e.g. Cameron & Pierce 1994). At low levels, the individuals can easily replace the intrinsic motivations with external interventions (Deci, Koestner, & Ryan 1999). The task becomes much more difficult at high levels of intrinsic motivation.

Secondly, the majority of studies utilized laboratory experiments (Jordan 1986; Deci, Koestner, & Ryan 1999). The problem with laboratory experiments is that they utilize tasks without previous knowledge of their initial task interest. Therefore, experimenters will utilize pre-tests to assess the task interest (Deci 1971, 1972). Firefighters offer the unique opportunity to study an activity with established task interest. Finally, the literature on the effect of extrinsic rewards on intrinsic motivation extensively studied children (Deci, 1971, 1972; Lepper, Greene, & Nisbett 1973). This study will afford an opportunity to test the undermining effect of extrinsic rewards in a real world setting on adults.

Methodology

Research Design and Sample

The population for this study focused on firefighters in the Commonwealth of Virginia. As of June 8, 2010, there were 598 Primary Fire Departments. Among these, there were 18 career fire departments, 476 volunteer fire departments, and 104 combination fire departments, which are mixed between career and volunteer personnel. All fire departments are divided into 7 divisions or areas served in the Commonwealth of Virginia. Primary Fire Departments are

defined as “municipal fire departments that provide fire service response in a community” (Virginia Department of Fire Programs 2010). In an effort to measure competing effects of extrinsic rewards on different populations, this study will sample from career, volunteer, and combination fire departments.

Using data provided by the VDFP 2010 Needs Assessment, this study evaluated the impact of non-monetary extrinsic incentives on intrinsic motivation for career and volunteer firefighters. Removing fire departments with monetary or monetary-related incentives (paid training, money/ bonuses, local tax reductions, and business discounts), the resulting population was 29 fire departments with “no incentives or rewards” and 91 fire departments with both department clothing and/or decals, the non-monetary extrinsic incentive of interest.

Using the data, I selected 18 fire departments to administer the Work Extrinsic and Intrinsic Motivation Scale (WEIMS) as a measure of intrinsic motivation. The WEIMS is a unique scale that allows for the measure of intrinsic and extrinsic motivation for a general activity. Additionally, the WEIMS allows the researcher to measure multiple types of extrinsic motivation. The fire departments will be selected through random sampling using Numbers’ rand function stratified on population and area served (rural vs. urban vs. suburban). All groups indicated that they utilized Department clothing as the incentive system.

The first urban only group includes two volunteer, one combination and one career fire department. The second rural only group includes two volunteer and two combination fire departments. The third group includes one volunteer and one combination fire department serving suburban and rural areas. The fourth group includes two volunteer fire departments serving urban, suburban, and rural areas. The fifth group includes two volunteer fire departments serving urban and suburban areas. The last group is the control group without

Department hats and clothing. This group will include one career, one career/combo, and two volunteer fire departments. The following graph shows the groups graphically.

Graph 2 – Sample Grouping

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Urban Only 2 volunteer 1 Combo 1 Career	Rural Only 2 volunteer 2 Combo	Combo (Sub/Rural) 1 volunteer 1 Combo	Combo (Urb, Sub, Rur) 2 volunteer	Combo (Urb, Sub) 2 volunteer	No Reward 2 volunteer 1 Combo 1 Career

Prior to the data collection, I e-mailed letters to each fire department using contact information available through the VDFP requesting their participation in the study. VDFP updates the database yearly for record keeping purposes. VDFP also uses the information to conduct their annual needs assessment (Virginia Department of Fire Programs 2008). VDFP collects information such as addresses, phone/fax numbers, email addresses, and current fire chief's names of all Virginia Fire Departments. This information is updated in the Fire Service Training Records System (FSTRS) (Virginia Department of Fire Programs 2008).

Survey Questionnaire

Field data collection methods on the undermining effects extrinsic rewards have differed by researcher. The two main methods include interview and survey. Interview methods take considerable time (Weatherly, 2002) and may provide unreliable data due to leading (Harris & Brown 2010). Therefore, many researchers studying the undermining effects of extrinsic rewards in the field have chosen to use survey questionnaires (Jordan 1986; Medic, Mack, Wilson, and Starks 2007).

While there are various types of survey questionnaires to study the relationship between intrinsic and extrinsic motivation (e.g. Sport Motivation Scale), one survey was found to be most applicable for the goals of this research project. The Work Extrinsic and Intrinsic Motivation

Scale (WEIMS) was developed in 2009 to study the overall motivation of the individual in a particular role. Prior to this survey, most surveys sought to understand the intrinsic motivation on a specific target activity. While studying the target activity is useful for some positions, it offers little understanding for individuals involved in complex roles and positions without specific performance measures. The WEIMS seeks to understand the motivation level for a role versus an activity. Additionally, the WEIMS measures the different types of extrinsic motivation an individual may experience (Deci & Ryan 2008).

Data Collection

The data collection method that was utilized for this study was the use of an internet-based survey. Internet-based surveys can be more cost effective than traditional mailed surveys (Wright 2005; Bettinger, Merry, & Grebner 2010). Internet based surveys are also becoming extremely popular and “fruitful” (Wright 2005). Internet based surveys also allow individuals to disclose answers that may be unpopular (Wright 2005) which may assist in gaining honest answers about job characteristics in firefighting. One of the issues with internet-based surveys is identifying individuals in organizations (Wright 2005). However, this survey sought to sample entire fire departments and survey all firefighters within the department.

The largest issue with using internet-based surveys is the problem with population access. The literature reveals that coverage bias or bias due to sampled people not having or choosing not to access the internet is the largest concern (Kay & Johnson, 1999; Crawford, Couper, & Lamias, 2001; Solomon 2001). While this was an early concern for the study, the VDFP solely utilized internet-based surveys in their *Virginia Fire Service Needs Assessment* (Virginia Department of Fire Programs 2008, 2009, 2010). Using an online survey collection website, the

VDFP received an 89 percent survey response rate from a sampled population of Virginia Fire Departments (Virginia Department of Fire Programs 2008, 12).

This research project coordinated with the VDFP to gain their support for the study to increase response rates. The study will be promoted as a job satisfaction survey. The VDFP explains that local government assistance was critical to their high response rate (Virginia Department of Fire Programs 2008). In conversations with the VDFP, they informed me that they would also contact the participating fire departments to encourage participation in the study.

An email message was sent to the points of contact of selected fire departments inviting them to participate in the survey. The email included information on the survey as well as a link to the survey. The online survey tool will be *surveymonkey.com*. *Survey monkey* is an online survey tool that allows users to quickly answer surveys while allowing researchers to easily download and organize the results.

The 2008, 2009, and 2010 Virginia Department of Fire Programs Needs Assessment sent reminder emails, letters and postcards to the population reminding them of upcoming deadlines. According to their methodology section on the 2008 Virginia Department of Fire Programs Needs Assessment, the VDFP sent out reminders every 7-10 days (Virginia Department of Fire Programs 2008). This study used the same aggressive reminding system to ensure a high survey response.

Because the chosen fire departments will or will not have the non-monetary extrinsic incentive system in place, I only administered the survey to the selected fire departments. The survey was asked to be returned in two weeks.

Analysis Dependent Variable

The WEIMS produces individual scores for intrinsic motivation and the five different types of extrinsic motivation. The WEIMS allows the researcher to use each score individually or collectively. The intrinsic motivation and external regulation (a measure of extrinsic rewards as defined by Deci) score will be the two measures of interest for the dependent variable.

Analysis Independent Variable or Factors

The two main independent variables of interest is the status of the firefighter and whether they did or did not receive the non-monetary extrinsic incentive. This study sought to study the differing effects of non-monetary extrinsic rewards on intrinsic motivation for career versus volunteer personnel. The literature reveals that in order for the extrinsic rewards to undermine intrinsic motivation, the reward must be important to the individual (Deci, Koestner, & Ryan 1999). This study evaluated what value, if any, career firefighters place on non-monetary extrinsic incentives. Secondly, this study evaluated what impact Gibbs' (1980) concept of reward equity has on the undermining effect of extrinsic rewards. In order to test this, firefighter status (career vs. volunteer) must be included.

Additionally, this study controlled for the following variables: population served by the fire department (rural vs. urban vs. suburban), education level, and income level (Medic, Mack, Wilson, & Starkes 2007), which have been shown to affect either volunteerism or intrinsic motivation.

Data Analysis

The unit of analysis for the study is the individual firefighter. The data was analyzed using multiple regression. The dependent variable was the WEIMS intrinsic motivation score and the two main independent variables of interest were firefighter status (career vs. volunteer) and receipt of the non-monetary extrinsic incentive (t-shirt). The WEIMS is produced by the

WEIMS scale and measures an individual's extrinsic and intrinsic motivation level for a given task or activity.

Limitations

The greatest limitation of this study is the differing impact of expected vs. unexpected rewards. The literature suggests that expected rewards are more controlling and will undermine intrinsic motivation more (Deci 1972). However, this conclusion was made in laboratory settings prior to the administration of the extrinsic reward. Because this study will only study fire departments with the non-monetary extrinsic incentive system in place, it will not be able to gauge whether the firefighter expected to receive the reward without asking the question in the survey.

Because this study will only survey a small sample of firefighters in the Commonwealth of Virginia, caution must be exercised in generalization of the findings or making conclusions. However, the intention of the study was to contribute to the field of literature on the undermining effect of extrinsic rewards particularly on public and non-profit employees. Therefore, other researchers will be able to replicate this study using highly utilized rewards.

Another limitation is the anticipated response rate. The VDFP received an 89 percent response rate. However, this response rate may have been inflated by the VDFP's status as a government organization. While this study will receive letters of encouragement from the VDFP, it may not be able to reach the high response rate generated by the VDFP.

Definition of Concepts

Cognitive Evaluation Theory: Deci's theory that "assumes that intrinsically motivated behavior is behavior which allows a person to feel competent and self-determining. The theory then asserts that there are two process by which extrinsic rewards can affect intrinsic motivation: (a) a change in perceived locus of causality and (b) a change in one's feelings of competence and self-determination" (Deci, Cascio, & Krusell 1975, 82).

Extrinsic Rewards: Any external regulation or “separable consequence such as food or money” (Ryan & Deci 2000, 57). Deci, Koestner, and Ryan (2001) also define rewards as “gold stars, best-student awards, honor roles, [and] pizzas for reading” (Deci, Koestner, & Ryan 2001, 1). This will be measured by the use of a non-monetary incentive of Department clothing.

Extrinsic Motivation: The engagement in an activity because “it leads to a separable outcome” (Ryan & Deci 2000, 55).

Fire Service Training Records System (FSTRS): FSTRS is a database management system utilized by the Virginia Department of Fire Programs (VD FP). The database records information on each firefighter for training purposes. The information in the database includes, but is not limited to, name, social security number, address, telephone numbers, and verification of class attendance. The 2008 and 2009 Virginia Fire Service Needs Assessment updated this database to include information such as phone/fax numbers and email addresses of all current fire chiefs for Virginia fire departments (Virginia Department of Fire Programs 2008, 2009).

Intrinsic Motivation: The engagement in an activity because it is “inherently interesting or enjoyable...rather than because of external prods, pressures, or rewards” (Ryan & Deci 2000, 55-56). This will be measure by the Motivating Potential Score (MPS) of the Job Diagnostic Survey (JDS).

New Public Management (NPM): Theory based on the concept of performance-related pay. Grounded in principal-agent theory, NPM assumes that the “government workers are extrinsically motivated and are responsive to external incentives” (Houston 2009, 45). Houston (2009) goes on to say NPM is “characterized by accountability based on performance, a reliance on market and quasi-market mechanisms, and the adoption of customer orientation...the emphasis is on encouraging an entrepreneurial spirit among public managers as the key to improving program efficiency and effectiveness” (45).

Non-monetary extrinsic incentive: Any incentive not offered in a monetary form. These include gold stars, certificates, and best-student awards (Deci, Koestner, & Ryan 2001). For this study, the non-monetary incentive will be department clothing.

Career or Paid Firefighter: These firefighters are classified as paid employees by the Commonwealth of Virginia. The Virginia Department of Fire Programs classifies these employees separately for training purposes from volunteers. For the purposes of this study, these firefighters will be from paid/ career fire departments.

Primary Fire Departments: The Virginia Department of Fire Programs (VD FP) defines primary fire departments as “the main fire departments that provide fire service response in an area and may include additional fire stations” (Virginia Department of Fire Programs 2010, 9). VD FP separately classifies these fire departments.

Tangible Rewards: Any physical reward that are “frequently offered to people as an inducement to engage in a behavior in which they might not otherwise engage” (Deci, Koestner, & Ryan 2001, 4).

Virginia Department of Fire Programs: Department that provides “funding, training, and educational programs to enhance public safety throughout the Commonwealth; and to enforce building code, statewide fire prevention code, and life safety code compliance” (Virginia Department of Fire Programs Website).

Virginia Fire Incident Reporting System (VFIRS): The Virginia Department of Fire Programs uses the Virginia Fire Incident Reporting System (VFIRS) to track incidents in the Commonwealth of Virginia. It documents department activity. “VFIRS is an all-type incident reporting system.” It collects information on fires, EMS, hazmats and other emergencies. It also tracks “frequency of call types, causes of fires, amount of loss from fires etc” (Virginia Department of Fire Programs Website).

Volunteer Firefighter: Volunteer firefighters are firefighters that not paid for their services. The Virginia Department of Fire Programs (VDFP) classifies these firefighters separately from career firefighters. For the purposes of this study, firefighters from volunteer fire departments will be considered volunteer firefighters.

Organization of Study

Chapter 1 will provide an introduction to the study including a statement of the problem, background for the research question, purpose and significance of the study, general information on firefighters in the Commonwealth of Virginia, and a brief overview of the methodology along with definition of concepts.

Chapter 2 will be a review of the literature on volunteerism and the associated theories. It will also cover extrinsic rewards and intrinsic motivation with particular attention on non-monetary incentives. This chapter will provide background information on founding studies, ongoing debate, and an explanation of the underlying theory. It will also review literature on the use of the WEIMS as a tool to measure intrinsic motivation and the use of various non-monetary rewards. The chapter will also review studies on monetary incentives. Finally, this chapter will provide a discussion of expected vs unexpected rewards and career versus volunteer firefighters.

Chapter 3 will provide an overview of the research methodology that will be utilized in this study. This chapter will include data collection tools including set-up of an online survey, population sampling methods, and a discussion of Virginia Commonwealth University’s Institutional Review Board (IRB) process. Finally, this chapter will provide a discussion on the data analysis techniques proposed for the study.

Chapter 4 will provide the results of the data analysis along with a discussion about comparisons with previous studies on intrinsic motivation. Chapter 5 will include a discussion on the findings. This chapter will also include limitations and challenges along with recommendations for future research. Finally, this chapter will include a conclusion.

CHAPTER II: LITERATURE REVIEW

While the act of volunteering has existed for centuries, the study of volunteerism is relatively new, emerging within the last 40 years (Haski-Leventhal 2009). As a result, researchers are still unclear on many volunteer concepts such as reasons to volunteer (Engs & Kirk 1974; Wilson 2000; Gagne & Deci 2005; Boezeman & Ellemers 2009) and even definitions (Wilson 2000; Haski-Leventhal 2009). The misunderstandings question volunteer theories' ability to understand volunteer behavior. Much of volunteer theory seems concerned with the demographic characteristics that constitute the volunteer population while little attention is given to their management and retention. A particular area this is especially true is in the understanding of the impact of rewards on volunteer management. While theories have been developed to understand the volunteer's attraction to certain activities in part due to certain rewards, they offer little in understanding the retention and optimum performance of the volunteers. Therefore, application of motivation theories may be more appropriate in understanding volunteer motivation and proper management through reward distribution.

Volunteerism

Before discussing the explanatory theories of volunteerism, it is important to highlight the demographics of volunteers along with recent trends. While there are numerous sources that cite the number and economic impact of volunteers, the *Independent Sector* has been regarded as the best survey of volunteer statistics (Clary & Snyder 1999; Musick, Wilson, & Bynum 2000; Wilson 2000; Finkelstein 2008). According to their website, the *Independent Sector* is "the premier meeting ground for the leaders of America's charitable and philanthropic sector...[they] have sponsored ground-breaking research, fought for public policies that support a dynamic,

independent sector, and created unparalleled resources so staff, boards, and volunteers can improve their organizations and better serve their communities” (Independent Sector 2010).

According to the *Corporation for National and Community Service*, a frequent partner of the *Independent Sector*:

In 2009, 63.4 million Americans volunteered to help their communities. This is an additional 1.6 million volunteers compared to 2008, making 2009 the largest single-year increase in the number of volunteers since 2003. Volunteers also provided 8.1 billion hours of service in 2009, which has an estimated dollar value of \$169 billion (1).

The *Independent sector* analyzed the numbers further. They offered that in 2011, the cost of a volunteer hour was roughly \$21.79 nationwide. In 2012, the cost of a volunteer hour was \$22.14 nationwide. In Virginia, the 2011 cost of a volunteer hour was \$22.90 for all volunteers (Independent Sector 2013).

The *Corporation for National and Community Service* found that the increase in volunteer rates were primarily attributed to women ages 45-54; married individuals; and those who were employed, especially individuals working full-time (3). The report also found that children under 18 years old or individuals with a high school diploma or college degree were the most likely to volunteer. Finally, the report found that volunteer rates increased in 2009 for some minority groups. They found that African American/Black volunteers rose from 20.3 percent in 2011 to 21.1 percent in 2012. This, again, was due primarily to the increase in minority women (3). However, white and Asian rates decreased from 28.2 to 27.8 and 20.0 to 19.6 respectively.

In 2009, various economic factors had also had an impact on volunteer rates. For instance, homeownership, education, and access to volunteer organizations all had a positive impact on volunteering rates. Conversely, living in multi-unit dwellings, longer commutes to

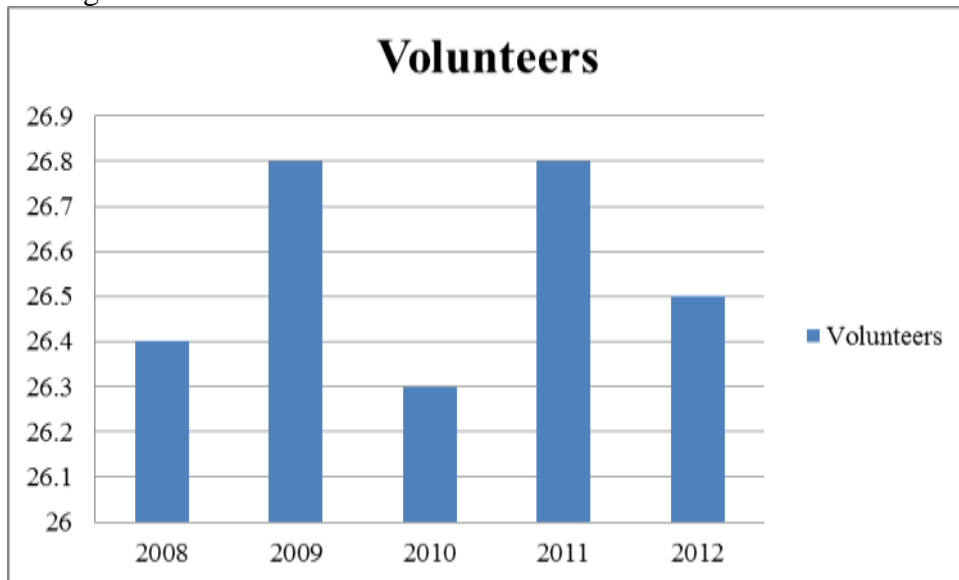
work, unemployment, poverty, and foreclosure rate all had a negative impact on volunteer rates in 2009 (5-9).

In terms of organizations, Americans chose to volunteer with religious groups the most in 2009. Social and community service organizations also increased. The authors of the report believe that the economic downturn motivated some of this increase (3). The report also mentioned that aside from the rather large increase in volunteers, the 2009 demographics of volunteers were consistent with previous years. With this consistency in mind, it is important understand this trend from a theoretical perspective.

Aside from the cost considerations, volunteers provide essential services many organizations cannot afford or afford to lose. For instance, hospitals rely heavily on volunteers for administrative tasks or emergency management (Skoglund 2006, 217) and firefighting (D’Intino 2006). Any decline in these services could result in catastrophic consequences.

Declining Volunteerism

Figure 1.1 – Percent of Volunteers



The increase in volunteers in 2009 (Figure 1) was positive, but it is too early to call this a trend as reflected by decreases in 2010 and 2012. There are a few factors that may explain the

increase in volunteerism and reveal a more representative outlook on volunteerism in America. Recent data also suggests a significant reduction in volunteers.

To begin, 2009's increase in volunteers may have been partially helped by what Alan Solomont, chairman of AmeriCorps, calls the "Obama effect" and the President's "Call to Service." Solomont stated that AmeriCorps received triple the number of applications than the previous year (Cole 2009), which may be helped by a unique election year in 2008. President Obama further helped volunteerism by signing the Generation Invigorating Volunteerism and Education Act also known as the GIVE Act in March 2009.

National political movements can significantly increase volunteer populations. Prior to President Obama's "Call to Service" and the GIVE Act, Americans responded to 9/11 with increased volunteer participation (Corporation for National and Community Service 2007) and focus (Drabczyk & Schaumleffel 2006). Because of these recent developments, it is important to still consider the possibility of declining volunteerism.

Additionally, using data compiled by the Corporation of National and Community Service, the Bureau of Labor Statistics (2011) suggests that volunteer rates declined by 0.5 % from 2011 to 2012. The 2012 volunteering rates seem more consistent with 2007 and 2008 supporting an environmental change such as the GIVE Act in 2009 and its full implementation in 2011.

Difficulty in Defining Volunteerism

One issue that may explain the inconsistency in volunteer numbers is the inconclusive definition of volunteerism. Scholars have heavily debated the definition of volunteerism (Cnaan, Handy & Wadsworth 1996; Stukas, Snyder, & Clary 1999; Handy, Cnaan, Brudney, Ascoli, Meijs, & Ranade 2000; Snyder & Omoto 2000; Wilson 2000; Haski-Levanthal 2009) and have

been unable to arrive at a consensus opinion, which results in varying definitions. For instance, Wilson (2000) defines volunteering as “any activity in which time is given freely to benefit another person, group, or organization” (215) while Snyder and Omoto (2000) defines volunteerism as “a form of sustained helping in which people actively seek out opportunities to assist others in need” (128). Snyder and Omoto’s (2000) definition point out that volunteerism is a “sustained” action, while Wilson’s (2000) definition may count volunteers who volunteer briefly or during a single instance. Harrison (1995) also calls this “episodic volunteerism.”

Handy, et al. (2000) further declare that “little systematic work has been carried out to define the term volunteer in a rigorous and precise manner” (46). This allows scholars to calculate volunteer incidence rates differently (Cnaan et al. 1996, 365), which may explain the dramatic increase in volunteer numbers in 2009. For instance, using Wilson’s (2000) definition, individuals may only volunteer once and be counted as a volunteer. This could possibly explain the increase in volunteers who in 2009, potentially motivated in part by President Obama’s call to service, participated in a volunteer activity, but did not sustain that level of volunteerism the following year.

However, different definitions of volunteerism also present significant management challenges as well. For instance, one of the debated definitions of volunteerism includes whether or not to consider any remuneration as a component of volunteerism (Cnaan et al. 1996; Wilson 2000; Barnes & Sharpe 2009). Remunerated volunteers may respond to management strategies differently than volunteers without any type of pay. Further, some managers of volunteers may believe remuneration is acceptable for volunteers, while other managers do not, which may contribute to conflicting experiences and expectations for the volunteer.

Cnaan et al. (1996) attempted to provide a comprehensive definition for volunteerism by identifying the most widely used definitions in the literature. The authors found that most definitions of volunteers are based on four key dimensions: free will, availability of rewards (remuneration), formal organization, and proximity to the beneficiaries (381). Cnaan et al. (1996) administered a situational survey to local Pennsylvania and Delaware citizens to identify “who is most likely a volunteer” (377). The authors found that the individual most likely to be considered a volunteer by the surveyed population was an adult who spent his or her time to be a Big Brother or Big Sister. Cnaan et al. (1996) considered these individuals to be the most “pure” types of volunteers because they encompassed all four key dimensions. The Big Brother/ Big Sister program (formal organization) utilizes uncoerced volunteers (free will) that receive no remuneration (availability of rewards) for their services to a previously unknown population (proximity of beneficiaries) (377). The four premises of the definition have been supported in the literature (Penner 2002; Measham & Barnett 2008).

While Cnaan et al. (1996) provides one of the more comprehensive definitions available in the literature, academics are still unable to agree on a consensus definition of volunteerism (Handy et al. 2000, 46). The lack of a definition provides three significant challenges to the volunteer management. First, it complicates the ability to accurately report volunteer rates (Cnaan et al. 1996). Volunteer incidence rates could be calculated incorrectly which makes determining trends difficult. Secondly, without accurate volunteer patterns, it is difficult to determine the need for management changes or policy recommendations (Handy et al. 2000, 46). Lastly, despite one of the agreed definitions of volunteerism, the use of remuneration is becoming an increasing trend in volunteer management despite not being a universally accepted management practice for volunteers.

Volunteer Turnover

Despite debatable trends and definitions in volunteerism over the last few years, the literature is riddled with declarations of volunteer turnover (Wilson 2000; Skoglund 2006; Haski-Levanthal 2009; Hidalgo & Moreno 2009). For instance, Eisner, Grimm Jr., Maynard, and Washburn (2009) declare that nonprofit organizations are under strain due to economic uncertainty and high volunteer turnover (34). They reported that “Between 2005 and 2006, the percent of volunteers who did not do any volunteering the following year increased from 32 percent to 36 percent” (34). Using Eisner et al.’s (2009) measurements, first-time volunteer numbers may have increased over the last few years, but retention of these volunteers may be decreasing.

While some could argue that with increased volunteer numbers, turnover is essentially creating more opportunities to volunteer in the organization, there are other issues with increased volunteer turnover. As volunteers remain in an organization, they become experts in delivering services, furthering the mission of the organization, and training new volunteers (Skoglund 2006, 217). High volunteer turnover can create voids in the organization and may affect the delivery of services by removing the veteran volunteer workforce.

Some of the contributing factors of volunteer turnover are out of the organization’s control. These include things such as family commitments and economic issues, which may decrease the time available for individuals to volunteer. However, the volunteer organization can also contribute to the rate of turnover for volunteers (Skoglund 2006; Eisner et al. 2009). Skoglund (2006) believes that “retention of volunteers is accomplished through the development of feelings of importance and belonging to a particular agency” (218). One such way to conveying feelings of importance to the volunteer is through comprehensive training programs

(Logue 2001; Skoglund 2006; Eisner et al. 2009). However, as both Skoglund (2006) and Eisner et al. (2009) suggest, many volunteer organizations do not offer comprehensive training programs, which may result in discontinued volunteer service. Therefore, these organizations may turn to simple strategies to convey feelings of importance and belonging through simple rewards, certificates, and other incentives.

Wilson (2000) furthered the concept of volunteer turnover. While the mismanagement of the volunteer organization can contribute to volunteer burnout, the type of volunteer work can also contribute to volunteer burnout and ultimately, turnover. When the work is “costly or risky,” volunteer organizations find it difficult to maintain volunteer commitment (230). These positions, such as volunteer firefighters or AIDS volunteers, can be extremely volatile and susceptible to turnover because the nature of the work is extremely burdensome both physically and emotionally. Therefore, these groups of volunteers require more specific methods of management to avoid volunteer turnover.

Approaches to Studying Volunteerism

Because of the issue of volunteer turnover, scholars have utilized many theories to understand volunteerism. However, similar to the varying definitions available for volunteerism, the approaches to understanding the phenomenon is equally complicated resulting in numerous theories seeking to explain volunteer behavior each with strengths, yet particular weaknesses in explaining retention and performance.

Human Capital Theory

Human capital theory suggests that resources raise the productivity of workers (Gibb 2008; Olaniyan & Okemakinde 2008; Liu, Austin, & Orey 2009; Agesa, Agesa, & Bongani 2010). Specifically, human capital theory suggests “education increases the productivity and

efficiency of workers by increasing the level of cognitive stock of economically productive human capability which is a product of innate abilities and investment in human beings” (Olaniyan & Okemakinde 2008, 158). Human capital theory argues that increased resources by way of investments such as education will make the individual more effective in particular roles.

Human capital theory is rooted in Schultz’s (1961) article “Investment in Human Capital” (Liu, Austin, & Orey 2009). Schultz (1961) posited that economists failed to recognize the importance of human capital investments such as education. He went on to suggest investment in education is equally important as “nonhuman capital” or more traditional forms of capital investment (12). Schultz (1961) concluded that agriculture and industry could not move forward without a healthy investment in human beings (16). Since the emergence of this theory, individuals have continuously invested in themselves through continued training, professional development, and education.

While Human Capital Theory has been utilized to study various relationships such as political participation and education (Liu, Austin, & Orey 2009) and production capacity and education (Olaniyan & Okemakinde 2008), it has also been applied to understand volunteerism (Wilson 2000). Specifically, Wilson (2000) used human capital theory to understand how education and race affected volunteer behavior.

Volunteerism and Education

According to the literature, level of education is the most consistent predictor of volunteering (McPherson & Rotolo 1996; Wilson 2000; Krugell 2010; Choi & Chou 2010). The 2009 data reflected this relationship as well. In 2009, individuals with a bachelor’s degree or more had the highest national volunteer rate among educational categories at 42.8 percent in 2009 (Corporation for National and Community Service 2010, 7). Human Capital Theory

suggests that individuals with more education possess the skills to be productive and efficient in many areas including volunteerism (Musick, Wilson, & Bynum 2000). According to Human Capital Theory, an investment in education opens doors for more volunteer opportunities and makes the individual more valuable as a volunteer. With more opportunities, individuals can choose interesting volunteer roles and play significant roles within the organization.

Education and volunteerism is also one of the more studied relationships in the volunteer management literature. Krugell (2010) found that most volunteers in South Africa were well-educated and obtained levels of education beyond Grade 12. Choi and Chou (2010) found that education was the most consistent predictor of volunteer time among older adults. Some believe this is because education makes the individual more aware of issues that necessitate volunteering and increases the individual's self-esteem (Brady, Verba, & Schlozman 1995; Rosenthal, Feiring, & Lewis 1998; Wilson 2000). Human Capital Theory would agree with the latter and suggest an investment in the individual can make the individual more productive and resourceful resulting in increased self-esteem.

Brady, Schlozman, and Verba (1999) suggest that education increases participation in more informal organizations, which may result in increased requests for volunteer activity. Wilson and Musick (1999) also believe that high-resource people, as partially measured by education, "compete better in the volunteer labor market because they are better endowed with knowledge, organizational skills, and discretionary time" (247). According to the literature, education is positively related to volunteerism because of opportunity and individual skill management.

Human Capital Theory also explains the finding that children of higher educated individuals have a higher rate of volunteerism (Wilson 2000). Sundeen & Raskoff (1994)

suggested that children of high-status parents were more likely to volunteer. Kawashima-Ginsberg and Kirby (2009) also found that children of well-educated immigrants were more likely to volunteer as well. It appears that once the investment has been made into the individual's education, it can be passed on as a resource to their children.

While education may be a consistent predictor of volunteering, it is not a prerequisite. Wilson (2000) believes education can have a “curvilinear” relation to volunteering. Using volunteer firefighters as an example, Wilson (2000) found that while they may be more likely to graduate from high school, they are less likely to have a college degree. Wilson's (2000) finding suggests that education is not the only predictor of volunteerism and in some cases, unnecessary.

Volunteerism and Race

Human Capital Theory has also been used to explain differences in volunteering among race. The key premise in this theory is that lower levels of human capital results in lower levels of volunteering among minorities (Musick, Wilson, & Bynum 2000; Wilson 2000; Agesa, Agesa, & Bongani 2010). The data presented by the *Corporation of National and Community Service* suggests that minority volunteering has increased albeit mostly female. This coincides with the data presented by the *National Center for Education Statistics*. According to their statistics, there was a 1.5 percent increase in bachelor's degrees conferred for Blacks from 1997 to 2008 (2010).

Using the framework of Human Capital Theory, one may explain that the increase in bachelor's degrees by minorities partially explain the increase in minority volunteer participation. However, the data is not definitive enough to make this conclusion. Musick, Wilson, and Bynum (2000) call the data on this relationship equivocal at best (1542). They suggest that there are still lingering questions that remain unanswered in regards to volunteers

and race. To answer some of these questions using Human Capital Theory, Musick, Wilson, and Bynum (2000) used a panel survey from House (1995) to evaluate the relationship between race and volunteering. They found that whites volunteer more than blacks because of educational and income inequalities between the two populations, which could be a consequence of race (1555-1556). They also found, however, that among blacks, human capital differences such as education and income did not impact volunteer rates. A high-school dropout was just as likely to volunteer as a college graduate and a poor person was just as likely to volunteer as a rich individual (1558). Finally, Musick, Wilson, and Bynum (2000) found that whites are more likely than blacks to be asked to volunteer. A finding Hodgkinson (1995) established earlier. Specifically, they found that whites may ask other whites at a higher rate than blacks will ask other blacks (p. 1561).

Musick, Wilson, and Bynum's (2000) findings partially support Human Capital Theory. The resource differences between blacks and whites may partially support differing volunteer patterns. However, despite their findings, the evidence may still be "equivocal." Additionally, Musick, Wilson, and Bynum's (2000) finding that among minorities, there was little difference in volunteering for differences in education and income presents additional challenges in understanding varying volunteer rates.

Weaknesses of Human Capital Theory

The fact that these patterns cannot be strictly explained by Human Capital Theory raises issues as an explanatory theory of volunteerism. Specifically, Human Capital Theory cannot explain the equal volunteering level of minority groups of all income and education levels. Human Capital Theory also cannot explain the involvement of volunteer firefighters despite their relatively low level of education (e.g. high school diploma). However, in the face of the

economic climate, Human Capital Theory could partially explain the decrease among volunteers that no longer have the resources or time to devote to an altruistic cause.

Secondly, Human Capital Theory places too much focus on the characteristics that constitute the volunteer. Human Capital Theory offers only what factors may motivate an individual to volunteer. This does little to help organizations recruit more volunteers than to target highly educated individuals of a certain race. Explaining the characteristics of volunteers also does little to explain the motivation of the volunteer to remain a volunteer.

The inability of Human Capital Theory to explain these patterns has been a growing criticism of the general theory. Some critics suggest that investment in human capital will not lead to the outcomes as predicted (Fuller, Gorman, & Edwards 1986) such as increased productivity or self-esteem. These critics suggest that individual productivity can be a function of other forces outside of human capital investment. This argument is applicable to the use of Human Capital Theory to explain volunteers as well. Education and race may be contributing factors, but the literature suggests that the relationship is not always positive. Additionally, education and race may not be the only predictors of volunteer behavior. Therefore, volunteer management may benefit from additional explanations to understand why volunteers choose a certain activity and more importantly, why they choose to stay.

Rational Choice Theory

Wilson (2000) also used Rational Choice Theory to explain individual decision-making in volunteering. The theory suggests that individuals are “rational” beings and will make decisions based on limited information on risks, effort, and benefits (Ogilvie & Stewart 2010). Rational Choice Theory suggests that the individual will only choose to volunteer if he or she

feels it will benefit their personal needs or goals. Through this framework, Wilson (2000) explained two more characteristics of volunteering: Jobs and Income.

Volunteering and Jobs

The relationship between volunteering and jobs is not conclusive. Wilson (2000) suggested individuals with preferred statuses through full-time employment will also get more intrinsic rewards from their paid work, which will easily translate into the volunteer sector (221). Employed individuals may be attracted to the concept of work activities and therefore, derive comfort or enjoyment from a regimented activity such as volunteerism. Specifically, these individuals will build an attachment to work and work-like activities that will prove to be successful in the volunteer sector (Herzog & Morgan 1993, 140). Because these individuals are successful, Wilson (2000) suggests that they will volunteer more because they will have more opportunity to do so and gain more in terms of social integration and building more skills.

However, Day and Devlin (1996) found that full-time workers are less likely to volunteer time than those who work part time or not at all. Day and Devlin's (1996) finding is more consistent with traditional explanations of the relationship between full-time employment and volunteerism (Wilson 2000). Full-time workers generally have little "free time" to donate to volunteer causes. While these volunteer opportunities may present much in skill development, they are still a heavy drain on the employee's opportunity costs. From a rational choice perspective, the individual's time spent on opportunity costs may outweigh the job-skill benefits gained through volunteer employment.

Volunteerism and Income

Rational Choice Theory also fails to explain the relationship between income and volunteer rates. Traditionally, Rational Choice Theory assumes that income and volunteerism

would be inversely related (Wilson 2000). Some of this could be due to the additional demands of a higher salary, which result in less “free time” for volunteer causes. However, the evidence is mixed. For instance, Day and Devlin (1996) found that “as annual household income rises beyond \$20,000, the probability of becoming a volunteer unambiguously rises” (47). Wilson (2000) also recognized the confusing relationship between income and volunteering. He suggested that the relationship between income and volunteerism could be either positive or negative base.

Weakness of Rational Choice Theory

The largest criticism against Rational Choice Theory as an explanatory theory for volunteer behavior is that it assumes the individual will make a rational choice to volunteer. The assumption that the individual is a rational actor ignores the environmental factors that may motivate an individual to volunteer (Quakenbush 2004). For instance, traditional Rational Choice Theory may suggest an inverse relationship for volunteerism and income (Wilson 2000), however, it ignores that the individual may be personally sympathetic to a particular cause.

Exchange Theory

A theory closely related to Rational Choice Theory is Exchange Theory. This theory has been used to explain an individual’s inclination to volunteer (also sometimes referred to as Social Exchange Theory). This theory suggests that the decision to volunteer is an economic one based on a cost and benefit analysis. Weerts and Ronca (2008) suggest that an individual will “make a decision about whether to volunteer based on an analysis of [the] exchange” (278). Sergent and Sedlacek (1990) state “social exchange theory suggests that people contribute to the degree that they perceive that they are being rewarded” (256). Therefore, an individual will choose to volunteer if he or she gains something in return. However, instead of the rational evaluation of

Rational Choice Theory, Exchange Theory could explain how benefits could be internal to the volunteer or inherent in the activity.

Wilson (2000) offers reasons justifying Exchange Theory as an explanation of volunteer behavior. First, individuals do weigh costs and benefits when considering volunteer work. Second, individuals do have a vested interest in volunteer causes such as parents joining a PTA because of their child. Third, individuals will volunteer because they anticipate needing help themselves or have already benefited from volunteers. Fourth, volunteers gain benefits from their work such as when child abuse victims will volunteer for a similar cause to “deal” with their past experiences. Fifth, volunteers are attracted to rewards and are more likely to drop out if they fail to receive them (Field & Johnson 1993, 1629; D’Intino 2006). Sixth, volunteering provides social benefits. Finally, some volunteers will openly seek compensation for “deprivations they experience in their paid employment” (222).

However, Wilson (2000) suggests that Exchange Theory may place too high a premium on quantifiable costs thus ignoring immeasurable benefits (222) such as intrinsic benefits. Another criticism leveled against Exchange Theory is that it disqualifies the individual’s altruistic nature. Wilson states “exchange theory assumes that people must act in a self-interested manner in order for social equilibrium to be achieved, placing their own interest before those of others, but a competing theory argues that people’s identity is important and that many people think of themselves as the kind of person who helps others regardless of whether their actions receive praise (223). Exchange Theory is an economic explanation of volunteering when economics may not apply. This concentration on economics may have also contributed to the extended use of external rewards in volunteer management. Organizations may feel compelled

to offer volunteers something, such as extrinsic rewards, in exchange for their contributions in an effort to retain volunteers (Fitch 1987; Sergent & Sedlacek 1990).

Weaknesses of Exchange Theory

Similar to Human Capital Theory, the use of Rational Choice Theory and Exchange Theory to explain volunteer behavior has been equally difficult. Both cannot consistently explain the relationship between employment and income with volunteering rates. The main weakness with the theories is the assumption that individuals are “rational” beings and will make decisions accordingly (Herne & Setala 2004). Wilson’s (2000) approach assumed that the individual will only volunteer when their specific needs or goals are met. The theories assume that for an individual to volunteer, the individual must receive a benefit. It essentially dismisses a discussion of the intrinsic, altruistic nature of the individual to help others. While some would argue that altruism serves individual needs of self-esteem (Wilson 2000), it does not explain the role of altruistic sacrifice.

Finally, Rational Choice Theory and Exchange Theory, like Human Capital Theory, do little to explain the effect organizations have on recruiting or maintaining volunteers. While Rational Choice and Exchange Theory both do a better job in discussing the rewards organizations can offer to volunteers, they still lack explanation in optimization of volunteer performance. Both theories seem content in understanding volunteerism from the approach of only recruiting warm bodies. Harrison (1995) calls this “episodic volunteerism” through the lens of “attendance motivation.” In this school of thought, the focus is on understanding the volunteer’s attendance to a volunteer setting regardless of performance. However, in most volunteer roles from retirement centers to after-school programs to more dangerous positions such as volunteer firefighting, attendance is only part of the equation. Commitment, attitude, and

optimum performance are essential to these roles for the volunteer experience to be meaningful for both the volunteer and the population served.

Role Identity Theory

Another theory to explain volunteer behavior is Role Identity Theory. This theory suggests the individual is motivated to volunteer by social norms. However, once the individual volunteers for a period of time, a “role identity” is formed,” which drives future volunteer behavior. The theory also suggests that role identity will strengthen as society associates the volunteer role with the individual. Eventually, the individual will see themselves as a volunteer and continue to establish themselves as such (Finkelstein 2007, 2008, 2010).

Role Identity Theory is rooted in social psychology. Essentially, the theory suggests that individuals ultimately define themselves by their various roles. Individuals will identify themselves by their employment, their social status, or their role in the family (e.g. mother, father, son or daughter)(Thurlow 2009, 252). As the individual becomes engrained in their social role, they will “seek to reinforce their role perceptions. As a result, an identity is formed, which is motivated by factors such as self-esteem, efficacy, consistency and regulation” (Warburton & Winterton 2010, 1049). Finkelstein (2008) offered that once a volunteer role identity was formed, motives for volunteering may become less important (15).

Warburton and Winterton (2010) used Role Identity Theory to explain the attractiveness of volunteering for seniors and those of retirement age. They suggest that seniors are attracted to volunteering because of “the human need to be productive and maintain meaning throughout the lifespan” (1049). Volunteering can offer seniors entering retirement an outlet to remain productive while enhancing their self-esteem and ultimately defining their new roles in the post-

employment period. Role identity could also be applied to those recently unemployed or widowed.

The evidence on this theory is inconclusive. The *Corporation for National and Community Service* found from 2008-2009, the largest increase in volunteers were among women ages 45-54 (*Corporation for National and Community Service*). While, this could suggest that these women have relinquished their role as a mother or caretaker for their children and have thus, chosen to find a new social role as a volunteer, without surveying this population directly, it is difficult to attribute this increase to Role Identity Theory.

Functional Approach

Another approach that seems to dominate the literature on the study of volunteerism is the functional approach (Clary et al., 1998; Penner 2002; Houle, Sagarin, & Kaplan 2005; Finkelstein 2010). Clary and Snyder (1991) defined functional analysis as being “concerned with the reasons and purposes that underlie and generate psychological phenomena - the personal and social needs, plans, goals, and functions being served by people’s beliefs and their actions” (123). Penner (2002) also offers a good description of the functional approach:

This approach is predicated on the notion that much of human behavior is motivated by specific goals or needs. Thus, if one wants to understand why a person has engaged in some behavior, one needs to identify the purpose or need served by that behavior. In the case of volunteering, people engage in this behavior, at least in part, because it serves one or more of their goals and needs (458).

The functional approach seeks to understand “why” people engage in specific behaviors including volunteerism. Absent in both of these definitions is the focus that should be placed on varying motivations. The functional approach also accounts for the ability of an action to serve different needs for different individuals. Some have called the functional approach a “multimotivational perspective” because “volunteerism may serve more than one motive for an individual and, also, different motivations may be served within a group of volunteers

performing the same activity” (Houle, Sagarin, & Kaplan 2005, 338). Understandably, the functional approach is a popular approach to studying volunteerism because it allows researchers and organizations to understand specific motivations that drive volunteers and how to promote or maintain those motivations.

However, Functional Theory is not a devoted theory of volunteerism. Instead, the theory is an approach used to explain other types of behavior in addition to volunteerism (Houle, Sagarin, & Kaplan 2005). Therefore, instead of seeking to explain volunteerism, scholars have sought to understand volunteerism from the functional perspective. Some of this may be attributed to the fact that the application of the functional approach to volunteerism occurred within the last twenty years (Omoto & Snyder 1995). While the functional approach has been one of the more popular theories to understand volunteerism (Clary & Snyder 1999; Houle, Sagarin, & Kaplan 2005), it demonstrates that the study of volunteerism still lacks a devoted theory to understanding the phenomenon. Secondly, similar to most theories on volunteerism discussed earlier, functional approach still seeks to understand the reasons why the individual engages in a particular behavior. It still offers little to the understanding of how to retain and continuously motivate volunteers once they join a particular organization.

State of Volunteer Theories

The literature suggests that volunteer theories have largely sought to understand the motives or decision-making process to become a volunteer. Some approaches have sought to understand the relationship between volunteering and certain personality traits (Omoto & Snyder 1995). However, little consideration has been given to understand the external motivational aspects of volunteerism within an organization’s control. Human Capital Theory, when applied to volunteerism, seeks to understand the relationship between volunteerism and various

characteristics outside an organization's control (race, education, income, and employment) leaving them little opportunity to effectively recruit and retain volunteers (Elshaug & Metzger 2001).

The approaches that did seek to understand reward evaluation such as Exchange Theory and Rational Choice Theory sought to understand why the individual chose to join a particular activity and did not offer perspective on the individual's response to a reward or the reward's impact on their performance throughout their participation in the activity. In some volunteer organizations, attendance is not enough such as volunteer firefighting where attendance must be coupled with optimum performance and retention. Therefore, it may be helpful to approach understanding volunteerism through the lens of motivational theories in an effort to gain perspective on successful mechanisms to retain volunteers and ensure effective performance.

Theories of Motivation

Much of the literature available on motivation are extensions of basic motivation theory and applied to different fields such as academic motivation (e.g. Wigfield 1997; Pajares 2001) and sport motivation (McAuley & Tammem 1989). Despite its popularity as a research topic, some believe the study of motivation is still an "insufficient systematic conceptualization" and "has tended to yield a stream of unrelated fragments, but little real understanding (Miner & Dachler 1973, 206).

To begin, there are different definitions on motivation including Locke and Latham's (2004) definition:

The concept of motivation refers to internal factors that impel action and to external factors that can act as inducements to action. The three aspects of action that motivation can affect are direction (choice), intensity (effort), and duration (persistence). Motivation can affect not only the acquisition of people's skills and abilities but also how and to what extent they utilize their skills and abilities (388).

Pinder (1998) defined (work) motivation as “a set of energetic forces that originates both within as well as beyond an individual’s being, to initiate work-related behaviour, and to determine its form, direction, intensity and duration” (11). The two definitions both suggest internal and external factors that work to motivate an individual’s behavior. While the definitions of motivation are seemingly simple, the interpretation of these definitions has been more complex.

While the study of motivation is extremely important to managers (Plate & Stone 1974; Gibbs 1980;; Mason-Smith 1999; Williams, Lankford & DeGraaf 1999; Ryan & Deci 2000; Ballentine, McKenzie, Wysocki, & Kepner 2003; Rainey 2003; Grant 2008; Lei 2010), it is difficult to research because it is a fluid concept that weaves in and out of other arenas such as psychology and management. The concept of motivation even overlaps within itself further complicating its study and understanding. Attempting to sift through the complexity, one approach to studying the theories of motivation is by distinguishing between content and process theories. Rainey (2003) states, “Content theories are concerned with analyzing the particular needs, motives, and rewards that affect motivation. Process theories concentrate more on the psychological and behavioral processes behind motivation, often with no designation of important rewards and motives” (249). However, Rainey (2003) quickly points out, “The two categories overlap, and the distinction need not be taken as confining. It serves largely as a way of introducing some of the major characteristics of the different theories” (249). Content theories also known as needs theories (Borkowski 2010) focus on the satisfaction of the inner needs of the individual. Process theories seek to understand the thought processes that influence human behavior. Because these two theories can overlap, process theories could be viewed as

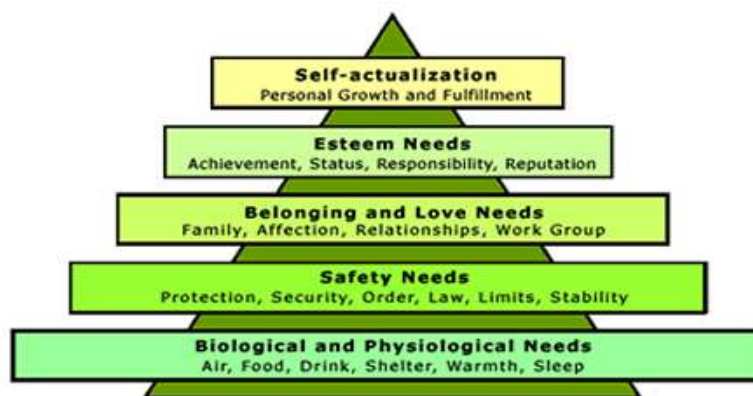
how the individual interprets content theories. Put more simply, content theories are the “what of motivation,” while process theories are the “why of motivation.”

Arguably the most influential content theory is Maslow’s (1943) Hierarchy of Needs (Rainey 2003; Brown & Cullen 2006). Maslow (1943) essentially suggested that human needs are hierarchical. Therefore, in order for the individual to move to the next “level” of human needs, he or she must first satisfy the lower level needs. Zalenski and Raspa (2006) offer the following description:

Fundamental to Maslow’s theory of motivation is that human needs are hierarchical - that unfulfilled lower needs dominate one’s thinking, actions, and being until they are satisfied. Once a lower need is fulfilled, a next level surfaces to be addressed or expressed in everyday life. Once all of the basic or deficiency needs - so called because their absence is highly motivating - are satisfied, then human beings tend to pursue the higher needs of self-actualization. Indeed, the fulfillment of the basic needs is considered a prerequisite to such pursuit (1121).

Maslow’s hierarchy can be viewed as a series of steps for the individual. The individual cannot and will not move to the next “step” of needs until the needs of the present step are satisfied (Hablemitoglu, Ozkan, & Purutcuoglu 2010). In the literature, Maslow’s hierarchy of needs is often depicted as the pyramid in Figure 1.2.

Figure 1.2 – Maslow’s Hierarchy



Source: Chapman 2002.

While Maslow’s theory is widely accepted, it is not without criticism. Some claim it is difficult to test (Shostrom 1965) and empirically supported by some and contradicted by others

(Steers & Porter 1983). Another poignant criticism of Maslow's hierarchy is that the theory assumes that once a need is satisfied, it will disappear and the individual will move to the next level (Kenrick 2010). Using a literal translation of Maslow's hierarchy, the individual will never return to physiological needs such as food and sleep once they have been satisfied. The same applies for money and financial security. One would also wonder if an individual ever fully satisfies Maslow's second level of safety needs of finances. Heylighen (1992) questioned this concept, but in regards to self-actualization. He suggests that self-actualization does not solely depend on the satisfaction of lower order needs (45). According to this viewpoint, an individual can advance up Maslow's pyramid without fully satisfying lower level needs. Heylighen's (1992) viewpoint may suggest that Maslow's hierarchy may be less a pyramid (Rowan 2007) as it is normally conceptualized, but a single level allowing the individual to dynamically choose the particular needs to satisfy based on the level of importance he or she assigns to each need.

Biological and Physiological Needs	Safety Needs	Belonging and Love Needs	Esteem Needs	Self-Actualization
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It is difficult to understate the impact both in research and application of Maslow's hierarchy. Maslow's hierarchy has been used to explain the importance of housing to the individual (Hablemitoglu, Ozkan, & Purutcuoglu 2010) and even spirituality (Yount 2009). Researchers have also adopted the hierarchy to construct measures of individual motivation such as the Motivation for Religious Behavior Questionnaire (Brown & Cullen 2006). Maslow's hierarchy has also been well represented in organizational management (Greene & Burke 2007; Best et al. 2008). However, noticeably absent is its application in explaining volunteer behavior. Some of this may be attributed to Maslow's inability to explain an individual's direct pursuit of higher needs absent of fulfilling lower order needs (Mook 1987).

Process Theories

Process theories seek to understand why an individual will engage in certain behavior. Instead of evaluating what the individual seeks to obtain, process theories seek to understand the psychological processes involved in motivating certain types of behavior. The two more influential process theories in the literature are Vroom's Expectancy Theory and Skinner's Reinforcement Theory.

Expectancy Theory

One of the most influential process theories reviewed to explain work motivation and volunteer behavior is Expectancy Theory. This theory suggests that the individual's performance can be gauged by understanding the individual's specific capabilities and desires (Sayeed 1985; Miller & Grush 1988; Klein 1989; Burton, Chen, Grover, Stewart 1993; Winniford, Carpenter, & Grinder 1997; Johnson 2009). Rooted in industrial psychology, the theory specifically posits that "employees will perform tasks if they are expected to do so, have the ability to do so, the opportunity to do so, and believe that their efforts will be rewarded" (Johnson 2009, 274). The individual engages in an activity with specific "expectations" to receive a reward or fulfill a personal desire (Behling & Starke 1973; Burton, Chen Grover, & Stewart 1992). Behling and Starke (1973) explain that "expectancy" is the "momentary belief on the part of an individual that acting in a particular way will actually be followed by a given outcome" (374).

Expectancy Theory is one of the most cited theories of work motivation in the past 40 years (Sayeed 1985; Locke & Latham 2004). Largely attributed to Victor Vroom's study of factory workers and their desired outcome-productivity relationship (Behling & Starke 1973; Herriot & Ecob 1979; Oliver 1995; Winniford, Carpenter, & Grinder 1997; Johnson 2009),

Expectancy Theory represents a first attempt to “formulate an overarching theory” of motivation (Locke & Latham 2004, 388).

The theory has been since applied to numerous fields including psychology, organizational behavior, military studies, managerial accounting (Miller & Grush 1988) and even work motivation (Behling & Starke 1973; Miller & Grush 1988; Winniford, Carpenter, & Grinder 1997). While each extension makes minor adjustments to Expectancy Theory, Behling and Starke (1973) believe that they all adhere to the theory’s basic formula that “the individual presumably cognitively or acognitively ‘compares’ the courses of action open to him and performs the one with the greatest positive or smallest negative force” (375). In this respect, Expectancy Theory presents similar assumptions as Rational Choice Theory used to explain volunteer behavior.

Expectancy Theory is also not without criticism. Johnson (2009) used Expectancy Theory to evaluate officer work output, particularly those that are difficult to quantify such as security checks for buildings and residences. He ultimately concluded that Expectancy Theory may not be appropriate for jobs that are not easily measured (282). Johnson’s (2009) study suggests that Expectancy Theory cannot accurately explain or predict the performance of employees that are self-motivated such as volunteers. A similar criticism was leveled by Lewin (1989) who states, “...expectancy theory is not yet sufficiently developed to yield predictions about the matching of rewards to performance” (89). These criticisms speak to a larger issue about expectancy theory’s inability to gauge the inherent rewards available in a given task. Instead, it focuses on the external reward’s ability to motivate an individual to perform.

Another weakness in Expectancy Theory is the lack of significance given to achievement of the activity. While the theory suggests that the individual will consider their personal goals

and desires, it still assumes, in some way, that there is an external reward to obtain. Liccicone (2007) believes, “expectancy theory does not consider the importance of individuals’ commitment to their goals, a concept central to goal theory, or the motivational impact of the relative value of individuals’ rewards for goal achievement, a concept central to equity theory” (16). Expectancy Theory does well to explain the compensation outcomes of the individual, but it fails to accurately account for the “intrinsic rewards” associated with some tasks (17). This last criticism against Expectancy Theory may explain its inability to explain volunteer behavior. Volunteers may derive intrinsic rewards for their participation in an activity. Because Expectancy Theory does not recognize these rewards, it may not provide an accurate understanding of volunteer behavior.

Skinner’s Operant Conditioning

The other process theory of major importance is Reinforcement Theory. Reinforcement Theory is rooted in Skinner’s operant conditioning. Operant conditioning suggests that behavioral changes are reliant upon the individual’s response to stimuli that occur in the environment (Porpora 1980; Peter & Nord, 1982). Specifically, behaviors are acquired or removed in response to the conditions or contingencies of reinforcement (Rainey 2003, 261). Reinforcement or rewards and punishments follow a behavior in an effort to condition that behavior or increase the probability of its reoccurrence (Abra 1988).

Skinner’s Reinforcement Theory was built upon experiments with rats and food, but quickly became a guiding theory for organizational management (Kazepides 1976). The concept that management can encourage a specific behavior as a response to a stimulus (e.g. employment, bonus, praise, etc) is an attractive one to managers. It does not require managers to

understand the intricacies of its employees. Instead, they only have to understand the stimulus that will elicit the desired surface level response by the individual.

While Reinforcement Theory and Skinnerian thought advocated for the growing use of rewards to manage behavior, Skinner essentially dismisses the notion of human autonomy and creativity or learning (Peter & Nord 1982; Abra 1988). Skinner dismisses autonomy as “a utopian and therefore illegitimate...objective” (Kazepides 1976, 53). Abra (1988) believes:

Skinner adamantly denies personal autonomy. Humans lack both the freedom to choose (and therefore the responsibility for) their actions and the dignity that accrues when they receive credit for their achievements. This does not deny someone’s unique individuality, which is in fact assumed, but is attributed not to a mysterious inner ‘self,’ but to the person’s unique biological and environmental history, these two great antecedents of all behavior. Predictably, then Skinner rejects ‘creativity,’ at least the assumed personality trait that influences behavior, as merely another trapping of autonomy” (407).

To Skinner, all human behavior is a reaction to external reinforcement (e.g. cheese). Therefore, managers need only consider these mechanisms of external reinforcement to encourage the desired behavior.

The three theories (Maslow’s Hierarchy of Needs, Expectancy Theory, and Operant Conditioning) are the more cited theories of motivation. However, there is an inherent bias to understanding motivation as a product of external incentives and rewards in all three theories. Maslow assumes that the individual is motivated by the fulfillment of the different levels. Expectancy theory and Operant Conditioning both assume motivation is “triggered” as a result of external stimuli. These theories shaped the understanding of motivation as a product of external regulations or extrinsic motivation.

Applied to the study and understanding of volunteerism, motivation theories do well in seeking to understand not only why an individual may choose to volunteer but how to maintain their participation and performance. However, the development of motivation theories within

the past 50 years has gravitated to understanding how external rewards control behavior essentially ignoring the importance of internal rewards available in a given activity.

Principal Agent Theory

Closely related to Skinner's operant conditioning, Principal Agent Theory offers a different approach to understanding human motivation particularly in management. Charles Perrow (1986) offers the following definition of the principal agent problem:

In its simplest form, agency theory assumes that social life is a series of contracts. Conventionally, one member, the 'buyer' of goods or services is designated the 'principal,' and the other, who provides the goods or service is the 'agent' – the term 'agency theory.' The principal-agent relationship is governed by a contract specifying what the agent should do and what the principal must do in return (224).

The principal agent problem addresses the differences in approaching various issues or tasks. It is the principal's goal to "motivate" the agent to share his or her preferences and beliefs

(Waterman & Meier, 1998, 174). Wolfgang Kasper (2002) mentions:

That there is a possibility that the agent will be better informed than the principal about the task at hand. The agent is closer to the action and will thus know more about what can be achieved and whether the best is being made out of given opportunities. But the agent will of course frequently be motivated to pursue his own purposes, not necessarily those of the principal (31).

It is therefore up to the principal to motivate the agents to do something that the agent is either unwilling or not motivated to do.

A concept often associated with Principal Agent Theory is the moral hazard principal agent problem. In the moral hazard model, the principal's problem is to establish a contract that encourages the agent to perform duties that the agent may not want to take, but the principal values. In order to establish the contract, the principal must offer the agent an external incentive such as money to motivate the employee (Jamison 1998). With Principal Agency Theory, motivation theory is, again, advanced toward understanding the motivation of the individual from an external regulation standpoint.

Extrinsic Motivation

Maslow, Vroom, and Skinner along with Principal Agent Theory, have focused largely on human needs and external rewards through specialized theories (Locke & Latham 2004; Seo, Barrett, & Bartunek 2004; Lepper et al. 2005). Exogenous rewards, environmental factors, and external regulation all define what the literature calls extrinsic rewards or extrinsic motivation (Deci 1971, 1972; Lepper & Greene 1975; Gibbs 1980; Ryan, Mims & Koestner 1983; Frey & Oberholzer-Gee 1997; Deci, Koestner, & Ryan 1999; Ryan & Deci 2000; Huitt 2001). Specifically, extrinsic motivation is defined as “the performance of an activity in order to attain some separable outcome” (Ryan & Deci, 71). These outcomes are “outside the individual” or extrinsic and are typically represented by money, gold stars, plaques, certificates, trophies or other tangible rewards (Deci, Koestner, & Ryan 2001).

Theoretically, the focus on extrinsic motivation in both application and study is founded in the idea that human behavior is mostly goal-oriented (Hablemitoglu, Oxkan, & Purutcuoglu 2010). This approach to the study of motivation is largely attributed to Maslow’s influential work on hierarchy of needs (Rainey 2003; Zalenski & Raspa 2006; Greene & Burke 2007; Hablemitoglu, Oxkan, & Purutcuoglu 2010; Zhang 2010) along with operant conditioning. Despite the fact that Zalenski and Raspa (2006) believe that “needs can be partially fulfilled at lower and higher levels,” the motivation of human behavior has largely focused on the lower level needs with little regard to the higher levels (1121). Organizations make little effort to reach beyond satisfying these basic level needs such as money and other extrinsic rewards assuming that few individuals will reach the level of self-actualization (Barling & Fincham 1979, 313).

The study of extrinsic motivation has been equally slanted. The studies on human motivation have largely focused on extrinsic rewards such as money (Deci, Koestner, & Ryan 1999), job security (Greene & Burke 2007, 117), health insurance (Rakich, Longest, & Darr

2000, 775), and employment, which Greene and Burke (2007) suggest fulfills Maslow's third level of belonging (118). While the reasons for this are many, some argue that extrinsic rewards are easier to implement for both academics and organizations (Frey & Jegen 2001) and are, in general, an adequate motivator (Cameron et al. 2001; Cameron et al. 2005; Briers, Pandelaere, Dewitte, & Warlop 2006). Ryan et al. (1995) also recognized that most of human behavior is not intrinsically motivated (405) or within the individual. Conversely, measuring an abstract concept such as intrinsic motivation may be difficult for many managers (Frey & Jegen 2001).

There is evidence, however, that extrinsic motivation can be successful for certain tasks such as learning a specific skill or performing a certain task (Lei 2010). Extrinsic rewards can also be quickly implemented to encourage a certain type of behavior (Lowman 1990).

Therefore, managers seeking to encourage an employee to complete a simple task, such as constructing widgets, may opt to utilize extrinsic rewards.

The most prevalent extrinsic motivator has been money (Kirton 2001; Voh, Mead, & Goode 2008). Through the use of bonuses, cash payments, or spot awards, organizations have long used money to motivate human behavior. The literature is riddled with examples of the importance of money. For instance, Voh, Mead, and Goode (2008) found that "participants reminded of money worked 48% longer, averaged across both experiments, before asking for help than did participants who were not reminded of money...when the construct of money was activated, participants behaved in ways that were both more desirable (persistence on challenging tasks; taking on more work for oneself) and more undesirable (reduced helpfulness; placing more distance between the self and others)" (211). In another example of the power of money to motivate, the *FACTS* survey found that 46% of eligible employees receiving monetary

awards for their performance exceeded the company goals (*Incentive* 2005). Such evidence has been motivating organizations to focus on money to control human behavior.

While money as an extrinsic motivator is important, it is not always the most important motivator. Kirton (2001) found, qualitatively, that care-givers in a foster care facility valued financial payments, but also recognized their limitations. Specifically, he found that “payment had played a little part in initial motivation and for many carers continued to occupy a relatively low place. This reflected both the intrinsic rewards from successful outcomes for children, and the high level of commitment required in foster care” (207). Kirton’s (2001) study reintroduced the importance of internal factors in human motivation particularly of foster care workers. This study found that while money was important as it has traditionally been presented, there are other factors that may motivate an individual to act.

More importantly, Round and Green (1998) found that money was not an effective motivator for firefighters. Round and Green (1998) attempted to institute a fitness program and offered firefighters an opportunity to earn \$1,200 a year. Instead, they found that the firefighters were more interested in other concerns such as job security.

Motivated by theories of both volunteerism and motivation, these studies demonstrate that extrinsic rewards, especially money, can be an adequate motivator for individuals. It is also a popular tool for organizations concerned with short and simple behavioral adjustments to the individual. However, the literature also suggests that extrinsic rewards including money may not be the most important motivator. In fact, some may prefer other types of non-monetary extrinsic rewards such as job security. Further, other workers in critical positions may prefer more internal rewards offered by the job.

Intrinsic Motivation

Recently, the “internal factors” or “actions originating from within the individual” of the definition of motivation (Locke and Latham 2004) have been revisited. Specifically, there has been an enhanced focus on the importance of alternative forms of motivation such as intrinsic motivation. Intrinsic motivation is often defined as engaging in an activity for the enjoyment of the activity itself (Deci 1971, 1972; Deci 1995; Deci, Koestner, & Ryan 1999; Guay, Vallerand, & Blanchard 2000; Frey & Jegen 2001; Lepper et al. 2005).

Ryan and Deci (2000) define intrinsic motivation as “the doing of an activity for its inherent satisfactions rather than for some separable consequence” (56). It has also been defined as the “engaging in an activity for its own sake, because one finds it enjoyable and interesting” (Millette & Gagne 2008, 12). The very first study on intrinsic motivation involved animals that performed an activity without any real reinforcement or reward. Despite its inability to be applied to humans, the study laid the groundwork for studying human curiosity and intrinsic motivation.

Ryan and Deci (2000) offer the following explanation:

Humans, in their healthiest states, are active, inquisitive, curious, and playful creatures, displaying a ubiquitous readiness to learn and explore, and they do not require extraneous incentives to do so. This natural motivation tendency is a critical element in cognitive, social, and physical development because it is through acting on one’s inherent interests that one grows in knowledge and skills. The inclinations to take interest in novelty, to actively assimilate, and to creatively apply our skills is not limited to childhood, but is a significant feature of human nature that affects performance, persistence, and well-being across life’s epochs (Ryan & LaGuardia as cited in Ryan & Deci 2000, 56).

Demir (2011) suggests that intrinsic motivation allows people to “engage in activities that interest them, and they do so freely, with a full sense of volition and without the necessity of material rewards or constraints. People who are intrinsically motivated feel that they are doing an activity because they have chosen to do so voluntarily and because the activity represents a challenge to their existing competencies and require them to use their creative capabilities”

(1399). In the literature, intrinsic motivation has also been referred to as prosocial or proactive behavior (Grant 2008).

These definitions accurately describe the volunteer experience. Volunteers often engage in particular activities because it is of personal interest to them. Volunteer theory such as exchange theory places too much focus on quantifiable external elements ignoring the “internal factors” that may motivate an individual to volunteer for a particular organization. This criticism could also be leveled against current theories of extrinsic motivation such as expectancy theory.

The literature suggests that intrinsic motivation is responsible for many successful job performance characteristics such as competence (White 1959), personal causation (deCharms 1968), and self-determination and autonomy (Deci & Ryan 1985). Houston (2009) suggests intrinsic motivation is responsible for good citizenship within the individual, which motivates the individual to take additional assignments not listed in their job description, stay late for assignments, and demonstrate creativity when approaching tasks. Ryan and Deci (2000) suggest “perhaps no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend and exercise one’s capacities, to explore, and to learn” (70). Some even suggest that intrinsic motivation may be more important than extrinsic motivation (Fair & Silvestri 1992; Carton 1996; Lei 2010).

One failure of volunteer theories is its inability to explain, foster, and maintain the volunteer’s optimum performance. Much of volunteer theory seemed satisfied with explaining the individual’s choice to volunteer without understanding their performance. While this approach may be satisfactory for some volunteer experiences, it is costly and potentially life threatening in other volunteer organizations such as volunteer firefighting. For this reason,

applying motivation theory through the framework of intrinsic motivation may provide a better understanding of volunteer management both in recruitment and retention. Specifically since studies have emerged suggesting that intrinsic rewards are more effective motivators than are external rewards such as money (Demir 2011).

Extrinsic vs. Intrinsic Rewards

Naturally, when two opposing forces are introduced, they are often compared and evaluated together. The first scholar to evaluate the relationship between extrinsic and intrinsic motivation was Deci (1971). Deci (1971, 1972) introduced the Cognitive Evaluation Theory (CET) and later introduced the Self Determination Theory (SDT) as a macro theory encompassing CET to evaluate the relationship.

Self-Determination Theory

Deci and Ryan (2008) believe that most “historical and contemporary theories of motivation have treated motivation primarily as a unitary concept, focusing on the overall amount of motivation that people have for particular behaviours or activities” (182). In response, Deci and Ryan (1985, 2008) developed self-determination theory as a “macrotheory” to address issues in human motivation such as “personality development, self-regulation, universal psychological needs, life goals and aspirations, energy and vitality, nonconscious processes, the relations of culture to motivation, and the impact of social environments on motivation, affect, behavior, and well being” (182). Specifically, the SDT evaluates what factors will “hinder or undermine self-motivation, social functioning, and personal well-being” (Ryan & Deci 2000, 69). Demir (2011) describes SDT as “an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of humans’ evolved inner resources for personality development and behavioural

self-regulation.” Demir goes on to suggest that SDT “differs from other need-based theories in that it proposes that human motivation is base[d] on innate psychological needs for competence, autonomy and relatedness” (1399).

Through two sub-theories, Cognitive Evaluation Theory and Organismic Integration Theory (OIT), SDT evaluates the impact of “environmental factors” on intrinsic motivation. It seeks to promote the “positive developmental tendencies” of the individual (69). They also suggest methods to understand the maintenance of individual performance, retention in organizations, and ultimately, job satisfaction.

As an aside, Deci and Ryan (1985) do not suggest eradicating extrinsic rewards for the individual. In fact, they understand the use of extrinsic rewards to increase productivity. Instead, they seek to determine the most effective management of the individual either from an intrinsic or extrinsic perspective. To underscore the importance of extrinsic motivation, they developed the Organismic Integration Theory (OIT) to explain the different types of extrinsic motivation.

Organismic Integration Theory (OIT)

Extrinsic motivation has varying levels. These varying levels relate to how an individual will respond to a set of extrinsic incentives. The Organismic Integration Theory (OIT) explains how various factors can affect the internalization and integration of the tasks (Ryan and Deci, 2000). Essentially, OIT offers a number of different types of extrinsic motivation.

The first type of extrinsic motivation according to Ryan and Deci (2000) is external regulation. External regulation is the most typical form of extrinsic reward as individuals who are externally regulated will perform an activity to obtain a reward or satisfy an external demand. The external regulation is responsible for the reduction of the locus of causality because of the

external regulated form of the reward. It is also the only kind of motivation recognized by operant theorists and more frequent in young volunteers (Astin et al. 1999). External regulation is the focus for Cognitive Evaluation Theory discussed further below.

The second type of extrinsic reward is introjected regulation. Introjected regulation is a type of internal regulation that causes people to perform a task because of the sense of guilt or anxiety (Ryan & Deci 2000). Another example of introjected regulation is ego-enhancement where an individual will perform an act to enhance or maintain self-esteem. Because the concept of ego maintenance is not completely internal (how others will view an individual), introjected regulation can still affect the locus of causality. Millette and Gagne (2008) believe that volunteerism is a function of introjected regulation as volunteering makes one feel like decent human beings.

The third form of extrinsic motivation is identification (Ryan & Deci 2000) or identified regulation (Millette & Gagne 2008). In identification, the individual will identify the importance of the behavior. Ryan and Deci (2000) offer the example of a boy who memorizes spelling lists because he sees it as relevant to writing, which he values as a life goal, and thus values learning this activity (62). While the action is intrinsic, the purpose to achieve the outcome represents an external regulation.

The final form of extrinsic motivation is integrated regulation. This is the most autonomous of the extrinsic motivators. In integrated regulation, the individual will bring new regulations in line with one's values and beliefs. The more one assimilates these regulations, the more they become a part of the self. This is close to intrinsic motivation, but it is external in nature because the behavior is based on the instrumental value with respect to some outcome.

Cognitive Evaluation Theory

While the question of extrinsic monetary incentives has been questioned through the literature (Atkinson, 1964; deCharms, 1968; Murray 1964), the idea that rewards can undermine or reduce an individual's intrinsic motivation is almost universally credited to Edward Deci (Lepper, Greene, & Nisbett 1973; Carton 1996; Frey & Jegen 2001). Deci's work is valuable because it does not ignore extrinsic rewards such as money. Instead, Deci sought to study the impact of extrinsic rewards on intrinsic motivation focusing on their interaction and not their individual impact. Deci (1971) was also the first to test the theory empirically with humans.

Partly influenced by Heider's (1958) locus of causality, Deci (1971) theorizes that in intrinsic motivation, the locus of causality or the "why he is doing the activity" remains within the individual. However, when an extrinsic reward is introduced, the locus of causality changes from within the individual to outside the individual. Therefore, the individual will "cognitively reevaluate the activity as one which he does because it provides him with external rewards" (Deci 1972, 223). To explain this "phenomenon," Deci proposed a cognitive evaluation theory (CET). Deci, Koestner, and Ryan (1999) offer the following definition of CET:

CET asserts that underlying intrinsic motivation are the psychological needs for autonomy and competence, so the effects of an event such as a reward depend on how it affects perceived self-determination and perceived competence. Events that allow need satisfaction tend to increase intrinsic motivation whereas those that thwart need satisfaction tend to decrease intrinsic motivation. CET proposes that rewards can be interpreted by recipients primarily as controllers of their behavior or, alternatively, as indicators of their competence. In the former case, rewards are predicted to thwart satisfaction of the need for autonomy, lead to a more external perceived locus of causality, and undermine intrinsic motivation (628).

CET proposes that rewards offer three separate functional, salient aspects: informational, controlling, and amotivating. For a reward to be informational, it must "convey meaningful feedback in the context of self-determination." It must signify to a person that he or she is competent at the target activity or information that lets the person know how to become competent at the activity (Ryan, Mims, & Koestner 1983, 738). Because informational rewards

convey competence, it is suggested that informational rewards will not affect intrinsic motivation.

Controlling aspects of rewards, however, are found to decrease intrinsic motivation.

Ryan et al. (1983) state:

The controlling aspect of rewards and communications pressures people toward specified outcomes. If a reward is experienced as making people do something, in other words, if the activity must be done in some particular way, at some particular time, or in some particular place for the person to receive the reward, the reward tends to be experienced as controlling (738).

Controlling rewards strip away the “need for autonomy” explained by CET. It also offers no competence for the individual. Finally, amotivating aspects “signal people’s inability to master a particular task and often can be associated with feelings of self-deprecation or hopelessness” (Carton 1996, 240). When used to control behavior, tangible rewards can be salient at any of the three aspects. Carton (1996) offers the following:

Deci and Ryan (1985) proposed that when tangible rewards are used to motivate people, the controlling or amotivating aspects of the reward are the most salient characteristics. Therefore, tangible rewards decrease intrinsic motivation by inducing a shift in perceived locus of causality from internal to external, promoting perceived incompetence, or both. In contrast, when praise is used to motivate people, the informational aspect of the reward is the most salient characteristic. Therefore, praise increases intrinsic motivation by facilitating an internal locus of causality and perceived competence (241).

Controlling external rewards places limits on the individual’s motivation and performance level. When an individual approaches a task with intrinsic motivation, he or she does so with boundless energy and drive. However, when controlling external rewards are introduced, it places bounds on the individual’s energy and drive. This is preferable in positions without the need for motivation because it motivates an individual to strive to the bounds while making widgets. However, in creative or performance-level positions, placing bounds on the individual’s energy could ultimately undermine their potential.

To test this empirically, Deci (1971, 1972) found, through laboratory experiments, that groups “promised” an extrinsic reward were more likely to experience a reduction in intrinsic

motivation than groups not “promised” an extrinsic reward. He measured intrinsic motivation by the amount of time the subjects spent on the activity during “free time” between experiments. Using the same model, Deci (1972) also found that punishments will reduce intrinsic motivation, while certain verbal rewards can enhance it. Finally, Deci (1972) found that rewards contingent on performance decreased intrinsic motivation, while rewards not contingent on performance had little to no effect.

The general theme of the studies on cognitive evaluation theory generally concluded Deci’s (1971) original hypothesis (Carton 1996). Since Deci’s (1971) experiment, the impact of extrinsic rewards on intrinsic motivation has been studied extensively on student groups using extra credit points (Cooper & Jayatilaka 2006), athletes using scholarships (Medic, Mack, Wilson, & Starkes 2007), online video game players using bonus points and online gaming currency (Wan & Chiou 2007), and children (Warneken & Tomasello 2008).

Each of the studies used the classic experimental design by Deci (1971, 1972) and focused on testing the effect on a specific task. Each found extrinsic rewards to decrease intrinsic motivation. Each experiment also used a reward that could be interpreted as monetary. Bonus points, academic scholarships, and online gaming currency are still tangible rewards that an individual can “spend” on a better grade, tuition, or various products purchased through online gaming. These studies demonstrate the still prevalent use of “monetary” rewards in the study of the relationship between intrinsic and extrinsic motivation.

Reward Contingencies

The issue of reward contingencies was first visited in Deci’s (1972) experiment. Deci (1972) proposed the cognitive evaluation theory to explain the “person’s perception of why he is doing the activity” (223). The “why,” however, is contingent on the type of rewards

administered for the activity. Deci (1972) ultimately suggests that extrinsic and intrinsic rewards are not additive. Deci (1972) found that monetary rewards contingent on performance decreased intrinsic motivation while monetary rewards not contingent on performance did not decrease intrinsic motivation. This theme was revisited and further developed by Ryan, Mims, and Koestner (1983).

Ryan et al. (1983) explained the four separate reward conditions. Task-non-contingent rewards are given for “participating in an experimental session, independent of what they do in that session” (736). Ryan et al. (1983) further believe that these types of rewards are similar to hourly payments in the real world. Task-contingent rewards are given for doing a task. These are comparable to “piece-rate payments” in the real world. Performance-contingent rewards are defined as a reward “that is given for a specified level of performance, that is for meeting a set criterion, norm, or level of competence” (737). These rewards can be compared to certain bonuses or incentives based on performance. Finally, competitively contingent rewards refer to “situations in which people compete directly with others for a limited number of rewards that are fewer than the number of competitors” (737).

Deci, Koestner, and Ryan (1999) further evaluated the literature on reward contingencies. They suggest that task-non-contingent rewards do not decrease intrinsic motivation. However, engagement-contingent, completion-contingent, and performance contingent rewards were found to decrease intrinsic motivation (628-629). There are certain circumstances where performance-contingent rewards can increase intrinsic motivation because they can convey competence to the recipient.

CET accounts for these reward contingencies. Specifically, CET factors whether these rewards “tend to be interpreted as controllers of behavior versus affirmations of competence, and

thus the extent to which they undermine versus enhance intrinsic motivation for interesting activities” (Deci, Koestner, & Ryan 1999, 628). The following is a brief discussion on two categories of rewards applicable to this study.

Task-Non-contingent and Engagement-contingent Rewards

A large criticism in the body of research on CET is that the experiments seek to measure a specific activity such as a puzzle (Deci 1971, 1972; Cameron et al 2005), exceed a score on a task (Eisenberger, Rhoades, and Cameron 1999), and other performance standards (Pierce et al. 2003). The rationale behind this being that “teachers, parents, and award committees frequently offer rewards (praise, money, recognition, plaques, etc) to students for achieving certain standards on tests or for outperforming others” (Cameron et al. 2005, 642). Much of this is limited to the approach of studying the effect since much of the evidence for the effect come from laboratory experiments (Jordan 1986; Cameron, Banko, & Pierce 2001; Cameron et al. 2005) that do not allow for testing general position and instead can only manipulate a single activity (Jordan 1986; Cameron et al 2005).

While measuring task-specific activities is important for academic research, it lacks many practical applications. Many non-profit and public organizations do not rewards its employees based on a specific task (i.e. the number of BINGO games a volunteer supervises at a retirement center). These volunteers, however, still receive plaques, certificates, and rewards based on their “performance.” Further, some activities may not be measurable for one specific task. For instance, it is difficult to measure the amount of a fire one firefighter assists in extinguishing. Therefore, it is important to understand what impact non-monetary extrinsic incentives have on the position and not the activity.

Ryan et al.'s (1983) definitions are extremely constricting when applied to field research. Each reward contingency is "task-specific" and not "position-specific." Therefore, if an individual is rewarded at the beginning of their assignment as a volunteer with t-shirts or clothing, it is difficult to assign the rewards to a specific reward contingency. Using Ryan et al.'s (1983) definitions, extrinsic rewards given to individuals for volunteering would most likely fall into the task-noncontingent or engagement-contingent category. Deci (1972) gave participants \$2 for being in the study and not doing the task. Ross, Karniol, and Rothstein (1976) gave participants candy if they "waited for the experimenter to return" (444). The rewards utilized in this study, department clothing hats/shirts, are normally given to the firefighters at the beginning before they have "engaged" in the activity of firefighting. Deci, Koestner, and Ryan (1999) also relate task-noncontingent rewards to a salary an individual will earn as a condition of employment. The meta-analytic review of Deci, Koestner, and Ryan (1999) suggest that task-noncontingent rewards will not be experienced as "controlling" and therefore, not affect intrinsic motivation.

However, an argument could also be made that awards given to an individual at the beginning of their assignment could be interpreted as engagement contingent. When an individual assumes a role, they are essentially "engaging" in the position or the task. Therefore, rewards given to these individuals whether it is an office at the beginning of their tenure or a t-shirt prior to their volunteer tour could be considered as engagement contingent rewards. These types of rewards have been found to reduce intrinsic motivation. Therefore, this study should not focus on the reward contingency as much as the basic premise of CET of locus of causality and its effect on intrinsic motivation.

Non-monetary Incentives

Since Deci's (1971) first experiment, the studies that have followed have largely focused on monetary incentives to study the relationship between intrinsic and extrinsic rewards (Deci 1971, 1972; Kruglanski et al. 1975; Salanick 1975; Daniel & Esser 1980). However, there is evidence that non-monetary extrinsic incentives can reduce intrinsic motivation as well. Most notably, Lepper, Greene, and Nisbett (1973) sought to examine the impact of a "good player" certificate with a gold seal and ribbon on drawing activity. After establishing baseline interest in the activity, Lepper et al. (1973) instituted Deci's (1971) classic experimental design.

Specifically, they believe:

The nature of the extrinsic goal should be of little consequence. Thus, an overjustification effect is predicted for any situation which results in an extrinsic attribution where previously intrinsic interest was the only salient attribution. Contracting explicitly to engage in an activity for a reward should undermine interest in the activity, even when the reward is insubstantial or merely symbolic (130).

Lepper et al. (1973) found that any reward, monetary or non-monetary, will decrease intrinsic motivation for participants. Prior to Lepper et al. (1973), most studies focused on the use of monetary rewards in laboratory experiments. This experiment focused specifically on the presentation of any reward.

Lepper et al.'s (1973) experiment supported CET's argument of locus of causality. Specifically, the children originally interested in the drawing activity became less so after the introduction of a non-monetary extrinsic reward. The change of locus of causality could have contributed to a decreased excitement and intrinsic motivation in the task.

Since Lepper et al.'s (1973) study, other non-monetary extrinsic incentives have been found to reduce intrinsic motivation such as verbal rewards (Deci, Koestner, & Ryan 1999), certificates (Ransen 1980), and movie passes (Harackiewicz 1984). These studies give rise to the controlling effect of non-monetary extrinsic incentives.

Despite these studies, the literature available on non-monetary extrinsic rewards is limited (Frey 2006, 2008). To begin, most of the studies focused on children in controlled laboratory experiments. The literature suggests that tangible rewards are more detrimental to children than college students (Deci, Koestner, & Ryan 1999). Therefore, the results of these experiments cannot be generalized to older populations. Secondly, a consistent criticism of CET studies is the lack of empirical field evidence. The administration of non-monetary extrinsic incentives in laboratory experiments offers little to explain the effect in the field.

Reward Saliency

The detrimental impact of non-monetary rewards is largely based on the reward's particular saliency. Specifically, "salient rewards made contingent on doing a behavior undermine intrinsic motivation for that behavior" (Deci, Koestner, & Ryan 1999, 630). When a reward is highly salient, "the individual's attention to them may be enhanced" (Ross et al. 1976, 246). Therefore, if a reward is highly salient, the individual may reason that the motivation for doing the particular activity is based on the reward. For example, a large salary is a salient reward for a high-paid CEO of a company and he or she may view the salary as the true reason for engaging in the position. Using Cognitive Evaluation Theory, the more salient reward may be more controlling and therefore, decrease intrinsic motivation more.

While the majority of the studies used monetary incentives because of their saliency (Earn 1982; Eisenberger & Armeli 1997; Deci, Koestner, & Ryan 1999) over non-monetary and verbal rewards, both types of rewards have demonstrated detrimental effects over intrinsic motivation in certain contingency settings. Earn (1982) found that when any reward was made salient by "making pay contingent on a certain amount of performance, high pay undermined the intrinsic motivation of both internals and externals" (371). Earn concluded that individuals can

weight rewards differently when receiving them for performance contingent tasks. Deci, Koestner, & Ryan (1999) also found this to be true. They suggested that performance-contingent rewards can be both informational and controlling. Therefore, if the individual sees the reward as informational, the intrinsic motivation will not be affected while if the individual sees the reward as controlling, the intrinsic motivation will be affected.

While trophies, plaques, and certificates are the dominating non-monetary extrinsic incentive in both the literature and in practice, t-shirts have become increasingly popular as a reward (Incentive Federation 2005, 11). For instance, Google has implemented incentive programs using t-shirts to reward engineers who take time to work on other projects they're "passionate" about (Mediratta 2007). In an effort to reduce the stressors of student teaching, some suggest rewarding student teachers with t-shirts upon completion of their student teaching assignments (Schilling 1998). Additionally, research has shown that the type of reward may be less important in affecting intrinsic motivation than the administration of any reward (Lepper, Greene, & Nisbett 1973; Ross 1975).

T-shirts are also becoming a popular reward for fire departments as department paraphernalia. Regarding department clothing, the U.S. Fire Administration explains that "many departments tie the distribution of uniform items either to length of service or to training/certification levels, or both" (111). Since t-shirts are an incentivized part of the firefighter's uniform, some firefighters may expect them when engaging in firefighting. This is important because the literature on saliency and intrinsic motivation suggests the individual views a reward salient if he or she expects to receive the reward (Ross 1975; Tang & Hall 1995; Eisenberger & Cameron 1996; Deci, Koestner, & Ryan 1999).

Additionally, t-shirts also offer fire fighters a sense of pride and belonging in the organization, which may assist with the reward's saliency. The Alaska Department of Public Safety mentioned that rural communities will use simple means to develop pride in the organization by issuing uniforms such as hats and t-shirts identifying the name of the local fire department (Alaska Department of Public Safety 2005, 5). Also, because it is a part of the uniform, it is different from a plaque or certificate and therefore, may be expected by the firefighter.

Criticisms

Eisenberger, Pierce, and Cameron (1999) directly challenged CET and found that rewards increased intrinsic motivation (Cameron et al. 2001) or had no effect (Cameron & Pierce 1994). Others have suggested that the research on the relationship between extrinsic and intrinsic motivation focused on situational factors (Abuhamdeh & Csikszentmihalyi 2009). Both of these criticisms suggested that extrinsic rewards did not automatically impact intrinsic motivation.

Specifically, they challenged CET's propositions that autonomy and competence were both necessary for maintaining intrinsic motivation. Eisenberger, Pierce, and Cameron (1999) reviewed several studies that found that rewards increased autonomy and intrinsic motivation. While they also raised concerns about performance contingent rewards using social-cognitive theory (Eisenberger, Rhoades, and Cameron 1999; Cameron et al. 2005), Deci, Koestner and Ryan (1999) recognized the complicated nature of these rewards and suggested they could increase or decrease intrinsic motivation because they conveyed competence. Cameron et al. (2001) finally questioned the "strength" of the effect. They argue that the effect, if existent, is meager (26). The meager argument is dangerous because CET is hardly generalizable to

different populations. For instance, the same effect on children may be considerably different for adults. The same effect on paid employees may be different from volunteers performing the same task. Therefore, it is important to find organizations with both volunteers and paid employees to gauge the differential impact of non-monetary incentives on these populations.

A final criticism on CET is that it rarely considers activity with low interest (Cameron et al. 2001, 2005). While this is a valuable consideration, it does not address the issue of intrinsic motivation. Low interest tasks may not have any effect on intrinsic motivation because it may not exist for these tasks (i.e. working a job) (Deci, Koestner, & Ryan 1999). While intrinsic motivation may be absent for working one's job, it is present and often necessary for things such as volunteering or playing a sport. Therefore, Deci, Koestner, and Ryan (1999) suggest studying volunteers with high intrinsic motivation levels such as non-profit volunteers.

Hyperbolic Discounting

While not a criticism of Cognitive Evaluation Theory, none of the studies reviewed sought to measure the importance of time in the administration of the reward. The lab studies (Deci 1971, 1972; Lepper, Greene, & Nisbett 1973) immediately rewarded the participant in the study. Jordan (1986) provided the reward after the target activity, but measured their intrinsic motivation levels almost immediately after. None of the studies reviewed sought to measure the intrinsic motivation levels of reward recipients after a significant period of time. Gneezy and Rustichini (2000) did find a residual impact of rewards. They found that imposing a late fee on parents of children at a daycare for being late had little effect on their motivation to pick up their child early. In fact, they found that the late fee encouraged parents to pick up their children late because it justified their tardiness. This trend continued after the late fee was removed.

Irlenbusch and Silwka (2005) called this phenomenon the “afterglow” effect. However, it did not study the individual’s level of intrinsic motivation after a period of time after the reward.

There is a particularly large body of literature in the fields of psychology and economics dedicated to the study of how delayed outcomes influence behavior. According to Green and Myerson (1996), this phenomenon, also known as discounting, suggests “the subjective value of a later reward decreases as the delay to its receipt increases” (496). If a reward is delayed, it loses its value for economic decisions and constitutes weaker reinforcers for learning (Gregorios-Pippas, Tobler, & Schultz 2009).

This is applicable to the study of Cognitive Evaluation Theory because rarely in real-world settings will the administration of the reward be given almost immediately. Normally, plaques and rewards are given at banquets or annual conferences. Even spot awards are sometimes given later than expected. These delays can adversely affect, either positively or negatively, the impact of non-monetary extrinsic incentives.

Government Volunteers

The difficulties in defining and studying volunteerism have led to a fragmented study of the volunteer population. The picture painted by the theories of volunteerism is a more general one and does not focus on specific types of volunteers (Sundeen 1990; Measham & Barnett 2008). As reviewed in the theories of volunteering, the studies on volunteerism are generally explorations of motives, values, and beliefs instead of an evaluation of specific groups of volunteers such as environmentalists and volunteer firefighters or an understanding of their performance.

Despite the lack of literature and understanding on specific volunteers, practitioners are moving forward aggressively to recruit volunteers, particularly governments (Brudney &

Kellough 2000; Norman 2006). Local governments, facing financial uncertainty and budget shortfalls, have been pressured to effectively utilize volunteers to deliver key public services especially firefighting (Perkins 1987; Brudney & Duncombe 1992). However, the study of volunteerism has given little consideration to public-sector volunteers (Brudney & Duncombe 1992; Fredericksen & Levin 2004). The lack of research has presented potential management issues for local governments' recruitment and retention strategies (Pearce 1993; Fredericksen & Levin 2004; Brudney & Ducombe 1992, 474). Brudney and Gazley (2002) state:

Extensive academic and professional literature supports the rather obvious argument that successful volunteer programs require more than a call for warm bodies. Volunteer programs also require an infrastructure and a set of management tools in order to place the right volunteers in the in the right positions, involve them effectively and retain them. Thus, if a call for more volunteers is not linked to the means for placing and involving volunteers using appropriate management tools, its effectiveness is greatly diminished (36).

Therefore, while “unrelenting” financial pressures continue to make volunteer use an attractive option, the lack of research and understanding devoted to maintaining volunteers (Brudney & Duncombe 1992) and volunteer performance is a potential issue that may contribute to volunteer turnover among essential volunteers such as firefighters.

Volunteer Firefighters

Firefighting has been described in numerous ways including: a highly admired and respected profession (Patterson & Kim, 1991, 141-145) to a difficult and complex, but highly necessary position (Perkins 1990; Grant 2008). Aside from responding to emergencies and educating the public, fire departments are “pillars” and civic anchors of the community (Perkins 1987; Simpson 1996; Hampson 2005). Perkins (1987) states, “The firehouse is many times used as a voting station. Games, dances, family reunions, and religious services are often held at the firehouse” (343). Fire departments provide important social opportunities for firefighters to strengthen bonds and promote the brotherly aspect of fire departments.

Another unique characteristic of fire departments is that they generally fit the concept of Coproduction. According to Perkins (1990) coproduction “is the contribution of both volunteers and government employees to providing public services” (362). Among fire departments, volunteer firefighters represent the majority of the national firefighting community (Jacobs 1976; Perkins & Metz 1988; Perkins 1990; D’Intino 2006). According to the National Fire Protection Association, there were 812,150 volunteers versus 335,950 careers in 2009. The overwhelmingly large population of volunteer firefighters makes them essential to fire protection.

The concept of coproduction offers a unique opportunity to understand the differential reception of rewards for paid and volunteers essentially performing the same task. This dichotomy presents the challenges explained in equity theory. Equity theory, attributed to behavioral psychologist John Stacey Adams, suggests:

...individuals compare the ratio of their reward for accomplishing a goal (that is, the output) to the effort they expended to do so (that is, the input) with the output to input ratios of selected others in the workplace. If the ratios are perceived as fair, the individuals making the comparisons will consider their rewards equitable. However, if the ratios are not equivalent and the differences between them are not considered fair, the individuals making the comparisons will consider their rewards inequitable (Liccione 2007, 19).

According to this theory, if two groups of people are performing the same task, yet unequally compensated, the lesser compensated group will consider their rewards inequitable and may experience reduced intrinsic motivation. The opportunity to study this effect in fire departments makes them advantageous for this study. The other is the unique population of volunteer firefighting.

Volunteer firefighting is often seen as the quintessential example of volunteering (Perkins 1990; Thompson III & Bono 1993; Hampson 2005). Using Cnaan et al.’s (1996) definition, volunteer firefighting fulfills three of the four components of volunteerism. It is a formal

organization with un-coerced volunteers serving a previously unknown population. Yet, similar to other volunteers, volunteer firefighters also struggle with the concept of remuneration.

Unlike other volunteer opportunities, volunteer firefighting offers many unique characteristics. First, few other volunteer opportunities monopolize its service such as volunteer firefighting (Perkins 1987). Therefore, turnover in volunteer firefighting could prove to be especially costly since it represents the majority of the workforce. Secondly, from a motivation standpoint, volunteer firefighting “offers participants an avenue to achieve enhanced levels of self-actualization” (Thompson III & Bono 1993, 349). Like some military careers, volunteer firefighting requires a large amount of personal dedication and intrinsic motivation from the volunteer. This high level of dedication and internal motivation separates volunteer firefighters from normal volunteers only required to participate in an activity. Because of the inherent dangers in firefighting, volunteers must also perform at a very high level. Finally, economically, volunteer firefighters also save taxpayers billions of dollars each year (Hampson 2005; D’Intino 2006; Santana 2009). These characteristics separate volunteer firefighting from other traditional volunteer roles.

Volunteer firefighting may also offer what some call flow experience. Flow experience is when individuals “are so completely involved in a task that they forget time and their own fatigue” (Puca & Scmalt 1999, 16). Flow experience allows firefighters to volunteer for a seemingly dangerous task and derive enjoyment from the activity. This flow experience could contribute to a heightened level of self-actualization or intrinsic motivation.

Despite the unique characteristics of volunteer firefighting, this population is susceptible to the challenges facing normal volunteers as well. Volunteer firefighting, like other volunteer organizations, has demonstrated problems with recruitment and retention of its volunteers.

Recruitment in firefighting has been historically troublesome (Brudney & Duncombe 1992, 479). Some of this is due to the “sacred” self-image of firefighters. Many veterans of these departments can hold the attitude that “individuals should come to it, not vice versa” (Perkins 1990, 366). Therefore, some volunteer fire departments do not engage in comprehensive recruitment programs. Retention is also a growing problem among volunteers, particularly volunteer firefighters. However, the retention of volunteer firefighters has not been heavily studied in the literature. The difficulty of recruitment combined with the lack of attention to retention could result in costly turnover of firefighters.

Consistent with volunteer turnover rates, some have suggested that volunteer firefighting has been steadily declining over the past few years (Perkins & Metz 1988; Perkins 1990; Hampson 2005; Stocker 2005; D’Intino 2006), while others such as the United States Fire Administration (USFA) and the National Fire Protection Association (NFPA) has reported an increase in volunteer firefighters. A careful evaluation of the NFPA data revealed that since 1986, the number of volunteer firefighters has both increased and decreased every five to six years. Noticeably, from 2005-2009, there was a slight increase in volunteer firefighters from 2004. However, from 2008-2009 there was a decrease from 827,150 to 812,150 volunteer firefighters. Similar to understanding the fluctuating trends of normal volunteer numbers, it is important to cautiously interpret this trend. The NFPA offered an explanation of the trend:

Since 1986, the number of volunteer firefighters declined in the late 1980s and in early 2000s, each time returning to the same level soon after. In 2005-2009, the number of volunteer firefighters has been stable at a level slightly higher than any previously recorded. When the rates of volunteer firefighters per 1,000 people protected for mostly or all volunteer departments are examined, the rates show a downward trend and fall within the range of 6.88 to 8.05 per 1,000 people protected (5).

So while the total number of firefighters may be steady, in relation to the service population, it seems there may be a decrease among volunteer firefighters.

Conversely, it appears that career firefighters have been increasing steadily since 1986. However, Karter and Stein (2010) quickly point out that “when the rates of career firefighters per 1,000 people protected for mostly or all career departments are examined, the rates do not increase but stay in a range of 1.64 to 1.77 career firefighters per 1,000 people protected” (1). So while the number of career firefighters has steadily increased, so has the U.S. population. Therefore, while there is not a dramatic decrease

Studies of Firefighters

Surprisingly, there are few studies on firefighters (Perkins 1987) outside of descriptive characteristics of firefighters (Perkins 1989) or the selection of firefighters (Barrett, Polomsky, & McDaniel 1999). There have been studies devoted to understanding the social aspect of volunteer firefighting. These studies suggest that individuals will seek to become volunteer firefighters to fulfill socialization needs.

Thompson III and Bono (1993) studied the volunteer motivation of firefighters from an alienation perspective. They proposed:

...citizens become volunteer firefighters in a purposive effort to struggle against the alienation which pervades contemporary capitalist society. They do this both in repulsion from the relative alienated nature of their everyday social relations, and in attraction to the relatively unalienated, self-actualizing social relations typical of volunteer fire departments” (326).

Their study specifically suggested that firefighters seek to become firefighters to avoid the concept of alienation. In a study of 354 volunteer firefighters in Ulster County, New York, Thompson III and Bono (1993) found that firefighters were less interested in external rewards or employment and more interested in self-developing rewards. They found, “the positive contribution of intrinsic motivation to satisfaction reinforces the expectation that individuals who join volunteer fire departments in order to fulfill intrinsic needs achieve elevated relative satisfaction there. In contrast, joining volunteer fire companies to achieve extrinsic ends has the

opposite impact, perhaps because these efforts are not successful or perhaps because extrinsic motivation is inherently not satisfying” (336).

While Thompson III and Bono’s (1993) study offered much in the understanding of firefighters, particularly volunteers, it also omitted certain key elements important to the understanding of firefighters. For instance, like most theories of volunteerism, Thompson III and Bono (1993) evaluated the interest to become a volunteer and neglected the factors that retain volunteers such as department management strategies and incentive programs. For instance, Sundeen (1990) studied the reasons for continued involvement for government volunteers and found that “the most commonly given reason for continuing volunteer involvement by local government volunteers is...having an interest in the activity of work” (337). He further found that the initial reasons for joining an organization are not the same reasons for continuation in an organization (339). While the reasons for this are not conclusive, Sundeen (1990) proposes that it could be attributed to internal rewards the volunteer experiences during the activity essentially suggesting that the longer one volunteers, the more internal rewards the individual will gain and the more important internal rewards become.

Thompson III and Bono’s (1993) comparison of external and internal rewards of volunteer firefighting was also extremely important. However, their study did not consider elements within the control of the fire department. Fire departments cannot control the individual’s desire to seek employment (external) versus avoid alienation (internal). Their comparison of internal and external rewards were also not consistent with the literature’s use of intrinsic and extrinsic rewards (i.e. Deci).

Perkins (1987) offered another study exclusively on volunteer firefighters in Virginia. Perkins (1987) found that volunteer fire departments in Virginia were extremely autonomous and

often resisted outside control (343). He also suggests that the firefighter's rewards are "based upon solidarity rewards - camaraderie, esprit de corps, departmental pride, and generally primary group interaction" (344). Perkins concludes that firefighters are important pillars of the community.

Perkins' (1987) study acknowledges the incentives available to firefighters, particularly volunteers such as tax incentives. However, his study was more of a case study without true empirical support. The literature supports Perkins' (1987) observation that solidarity rewards are important to the volunteer firefighter (e.g. Thompson III and Bono 1993). However, this does not prohibit fire departments from still implementing and utilizing "other" incentive structures. Studies on the relationship between these other rewards and the firefighters' job satisfaction are largely missing from the literature.

While these studies offered information in understanding firefighters, they did not offer much in understanding how to properly manage and retain volunteer firefighters. Similar to the functional approach to understanding volunteerism, Thompson III and Bono (1993) and Perkins (1987) sought to understand the motivation of volunteers to become firefighters. However, they did not seek to understand what management strategies could be employed to retain the volunteers.

Summary

The review of the literature evaluated two separate fields of study: volunteerism and motivation. The approaches to studying volunteerism have focused mainly on what motivates individuals to volunteer with few approaches to understanding the retention of these volunteers through satisfaction and motivation. The review of the motivational literature provided cognitive evaluation theory (CET) as a framework to understand volunteer satisfaction. Specifically, CET

suggests that extrinsic rewards can reduce intrinsic motivation in certain circumstances. Using CET to evaluate volunteerism, I have developed the following four hypotheses:

Hypothesis

The literature has led to the development of these four hypotheses.

Hypothesis 1:

Using CET, both career and volunteer firefighters who have received non-monetary extrinsic incentives will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary intrinsic incentives.

Hypothesis 2:

Using CET and Equity Theory, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives

Hypothesis 3:

Using the theory of discounting, delays in receipt of the non-monetary extrinsic incentive will result in higher intrinsic motivation.

Hypothesis 4:

Using Equity Theory, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

Measuring Intrinsic Motivation

Measuring intrinsic motivation has been one of the limitations of field research on the effect (Jordan 1986; Deci 1987; McAuley & Tammen 1989; Deci & Ryan 1990; Amabile et al. 1994; Guay et al. 2000; Tremblay et al. 2009). Because intrinsic motivation is difficult to define (Frey & Jegen 2001), it presents many methodology issues when trying to measure an individual's intrinsic motivation. Therefore, many have attempted to establish scales to accurately measure intrinsic motivation. Most of the contemporary studies on intrinsic motivation measure it as an experiential variable (Moneta 2004).

Behavioral Measure

The traditional means for measuring intrinsic motivation has been the behavioral measure (McAuley & Tammen 1989; Guay, Vallerand, & Blanchard 2000; Moneta 2004). Also known as the “free-choice” measure, this method of measuring intrinsic motivation has been heavily used in psychology most notably by Deci (1971) and his early experiments on the relationship between intrinsic and extrinsic motivation. Specifically, the free-choice measure calculates an individual’s intrinsic motivation by measuring the amount of time the individual spends on the target activity during a “free period” in which no reward is available, typically between experimental sessions. If the individual spends time on the target activity instead of reading available magazines or talking, he or she is considered to have intrinsic motivation (Deci 1971, 1972; Deci, Koestner & Ryan 1999; Guay, Vallerand, & Blanchard 2000)

While the construct validity of the free-choice measure has been established (Guay, Vallerand, & Blanchard 2000) along with its reliability (Diblasio, Chantel, Vallerand, & Provencher 1995), this measure presents significant limitations in measuring and studying intrinsic motivation. Most importantly, the free-choice measure can almost never be utilized in field research due to its reliance on controlled settings and observation (Guay, Vallerand, & Blanchard 2000, 179). Cameron et al. (2005) believe that the “free-choice” measure may not be a uniform measure of intrinsic motivation (654).

Work Preference Inventory

In an effort to design a reliable intrinsic motivation construct, Amabile et al (1994) constructed the Work Preference Inventory (WPI) “as a direct, explicit assessment of individual differences in the degree to which adults perceive themselves to be intrinsically and extrinsically motivated toward what they do” (952). Amabile et al. (1994) constructed the WPI as a research

tool to better understand and classify intrinsic and extrinsic motivational orientations. The 30-item tool was based on five themes addressed in the literature that contribute to intrinsic motivation: self-determination, competence, task involvement, curiosity, and interest (Loo 2001, 222). They constructed a scale that “directly” assessed intrinsic and extrinsic motivations instead of causality orientations, which led to primary and secondary scores of motivation computed by two main scales and two subscales.

The strength of the WPI is that it measures both intrinsic and extrinsic motivations. It also seeks to understand the orientation of the motivation in an effort to understand future behavior. They propose that the WPI allows them to understand the relationship between scores and behavior they are more likely to engage in the future (965). Therefore, the WPI can be utilized without a specific task to measure an individual’s overall motivation for a position.

The WPI has been heavily utilized in the literature to measure intrinsic motivation. Prat-Sala and Redford (2010) used the WPI to examine the interrelationships between motivation orientation (intrinsic and extrinsic), self-efficacy (in reading academic texts and essay writing), and approaches to studying (deep, strategic, and surface)(283). They were ultimately interested in the relationship between the WPI and students’ approaches to studying. Using a sample of 163 first-year undergraduate students from an UK university, Prat-Sala and Redford (2010) found that the relationship between approaches to studying extrinsic and intrinsic motivations were orthogonal. This led them to raise concerns about the tools’ overlap in certain subscales.

Abuhamdeh and Csikszentmihalyi (2009) used the WPI to study the way internet chess players responded to the intrinsic and extrinsic rewards of the chess games they played. Specifically, they were interested in “whether global, trait-level intrinsic and extrinsic motivation orientations would be associated with a heightened responsivity to specific features of the

competitive context associated with intrinsic and extrinsic rewards” (1630). Using a final sample of 84 men, the authors administered the WPI at the end of a two week study period. Abuhamdeh and Csikszentimihalyi (2009) found “IMO (intrinsic motivation) was associated with a strong curvilinear relationship between challenge and enjoyment, and EMO (extrinsic motivation) was associated with a greater affective responsiveness to competitive outcome” (1630).

However, Loo (2001) found poor support for the two primary scales (IM and EM). While Amabile et al. (1994) admitted that motivation is not a clear dichotomy between intrinsic-extrinsic (957), it still raises potential issues for accurate use in the field.

Situational Motivation Scale

Other than the free choice measure, the self-report measure has been heavily utilized to measure intrinsic motivation (Deci, Koestner, and Ryan 1999; Guay, Vallerand, & Blanchard 2000; Tremblay et al. 2009). In their review of the literature, Guay, Vallerand, and Blanchard (2000) highlighted two validated scales: The Mayo Task Reaction Questionnaire (TRQ) and the Intrinsic Motivation Inventory (IMI)(179). While both scales were validated, Guay, Vallerand, & Blanchard (2000) found the TRQ was too long and both measures did not consider other types of motivation other than intrinsic motivation such as external regulation and amotivation. In an effort to account for the lack of a reliable measure, Guay, Vallerand, & Blanchard (2000) developed the Situational Motivation Scale (SIMS).

The SIMS is a unique scale because it accounts for other types of motivation. Rooted in the definition of motivation, the SIMS asks “Why are you currently engaged in this activity?” (182). This question allows the researcher to understand the underlying reasons for engaging in an activity. Finally, the SIMS also allows for the use in field and laboratory settings.

Guay, Vallerand, and Blanchard (2000) validated their instrument through five separate studies. Specifically, they set out to demonstrate the instrument's ability to measure different types of motivation, establish internal consistency, and construct validity.

The SIMS is an improvement over the "free-choice" measure mainly because of its ability to assess different types of motivations, particularly extrinsic motivation. From a functional perspective, an individual can and will engage in an activity for different motivations. Therefore, while some individuals may engage in an activity for intrinsic rewards, others can engage in the same activity for external regulations.

While Guay, Vallerand, and Blanchard (2000) cited various limitations, one great limitation for field studies is that it is a "situational" scale. The "why" Guay, Vallerand, and Blanchard (2000) highlight focuses on a specific activity instead of a response to a reward structure implemented in an on-going position. For instance, could this scale be applied to teachers to evaluate the relationship of a pay-for-performance program throughout the year?

Intrinsic Motivation Inventory

The other scale that has been heavily utilized, particularly for sport motivation is the Intrinsic Motivation Inventory (IMI). Specifically, the IMI determines an individual's level of intrinsic motivation as an additive function of four underlying dimensions: perceived competence, interest-enjoyment, pressure-tension, and effort importance" (Markland & Hardy 1997, 20). McAuley and Tammen (1989) defined the IMI as "a flexible assessment tool that determines individuals' levels of intrinsic motivation as additive function of the underlying dimensions of interest/enjoyment, perceived competence, effort, and pressure/tension" (86). The IMI primarily seeks to measure intrinsic motivation and the variables that may affect behavior associated with intrinsic motivation.

The 28-item tool also allows the researcher to manipulate the questions to fit the target activity. McAuley and Tammen (1989) used a modified 16-item IMI to measure the effect of winning and losing on intrinsic motivation with 116 undergraduate students engaging in a basketball challenge called “horse.” Ultimately, they found that winners were more intrinsically motivated than losers.

A strong limitation for this scale is that, similar to SIMS, it relies on situations to measure intrinsic motivation. Markland and Hardy (1997) also found a greater limitation for the IMI. They believe that the scale may not be able to “distinguish between the directional dimension of motivation (intrinsic or extrinsic) while still assessing the intensity of motivation (30). Some of this may be due to the complicated levels of extrinsic motivation. Extrinsic motivation is not just rewards, but multiple sources motivation “outside the individual.”

Work Extrinsic and Intrinsic Motivation Scale (WEIMS)

In 2009, Tremblay, Blanchard, Taylor, Pelletier, and Villeneuve developed an 18-item measure of work motivation grounded in Deci and Ryan’s (2000) self-determination theory. Tremblay et al. (2009) recognized the need for a work motivation construct that was “practical, fast, flexible, and accessible” (213) and drew inspiration from a French Instrument “L’Inventaire des Motivations au Travail de Blais” (Blais Inventory of Work Motivation; BIWM)(214). Tremblay et al. (2009) developed the WEIMS to better measure the varying levels of motivation. Specifically, Tremblay et al. (2009) set out to examine the factorial structure of the WEIMS, assess the internal consistencies of the six motivational subscales, and examine the construct validity of the WEIMS “by conducting item-to-total intercorrelations as well as correlations amongst subscales” (216).

Ultimately, Tremblay et al. (2009) developed a valid scale not limited to intrinsic motivation (e.g. Hackman & Oldham 1975) and one that can be utilized in organizational settings (e.g. field measures). Another improvement over previous scales is the WEIMS can be used to assess overall motivation. The IMI and the SIMS could only assess that the situational response to external regulations. The WEIMS allows for measuring intrinsic motivation from an organizational perspective instead of measuring the response to a “target activity.” Finally, similar to the SIMS, the WEIMS also seeks to understand the “why” of the chosen activity or role. It instead asks, “Why do you do your work” instead of asking “why” an individual engages in an activity.

Specifically, the WEIMS seeks to measure intrinsic motivation and the five different types of extrinsic rewards proposed by Self-Determination Theory (SDT): integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation. The WEIMS produces a single score called the work self-determination index (W-SDI). “The total score derived from this formula reflects individuals’ relative level of self-determination. A positive score indicates a self-determined profile and a negative score indicate a nonself-determined profile” (Tremblay et al. 2009, 216). Individually, the subscales of the W-SDI can also be used to determine whether the individual is intrinsically motivated or extrinsically motivated, and if so, which type. The individual use of the subscales is of particular use to this study.

After its creation, Tremblay et al. (2009) administered the scale to 600 Regular Force military members across Canada. They found that external regulation was the main reason why they were involved in their work by the highest mean score of the subscales. Tremblay et al (2009) also established criterion validity by comparing the WEIMS’s subscales and a series of psychological constructs including perceived organizational support, work climate,

organizational commitment, job satisfaction, work strain, and turnover intentions. They found that the WEIMS accurately correlated with the six measures. Tremblay et al. (2009) also administered the scale to a second sample of individuals, but mainly sought to compare the self-determination scores.

Tremblay et al. (2009) recognize there are limitations to their scale. They admit that the use of self-report measures could manipulate the findings as individuals ultimately underreport certain types of behavior. Another limitation to the WEIMS is that it is a fairly new scale with little empirical support. However, aside from the “free-choice” measure, many intrinsic motivation scales are relatively new. While Tremblay et al. (2009) primarily established construct, content, and criterion validity in their study, the WEIMS should be utilized to predict or evaluate specific types of behavior as well. Tremblay et al. (2009) recommend that future research should “investigate how personal characteristics may lead to different motivational orientations.”

Appendix A

Why Do You Do Your Work?

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work

Does not correspond at all	Corresponds moderately					Corresponds exactly	
	1	2	3	4	5	6	7
1. Because this is the type of work I chose to do to attain a certain lifestyle.	1	2	3	4	5	6	7
2. For the income it provides me.	1	2	3	4	5	6	7
3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.	1	2	3	4	5	6	7
4. Because I derive much pleasure from learning new things.	1	2	3	4	5	6	7
5. Because it has become a fundamental part of who I am.	1	2	3	4	5	6	7
6. Because I want to succeed at this job, if not I would be very ashamed of myself.	1	2	3	4	5	6	7
7. Because I chose this type of work to attain my career goals.	1	2	3	4	5	6	7
8. For the satisfaction I experience from taking on interesting challenges	1	2	3	4	5	6	7
9. Because it allows me to earn money.	1	2	3	4	5	6	7
10. Because it is part of the way in which I have chosen to live my life.	1	2	3	4	5	6	7
11. Because I want to be very good at this work, otherwise I would be very disappointed.	1	2	3	4	5	6	7
12. I don't know why, we are provided with unrealistic working conditions.	1	2	3	4	5	6	7
13. Because I want to be a "winner" in life.	1	2	3	4	5	6	7
14. Because it is the type of work I have chosen to attain certain important objectives.	1	2	3	4	5	6	7
15. For the satisfaction I experience when I am successful at doing difficult tasks.	1	2	3	4	5	6	7
16. Because this type of work provides me with security.	1	2	3	4	5	6	7
17. I don't know, too much is expected of us.	1	2	3	4	5	6	7
18. Because this job is a part of my life.	1	2	3	4	5	6	7

Note. Intrinsic motivation = 4,8,15; integrated regulation = 5,10,18; identified regulation = 1,7,14; introjected regulation = 6,11,13; external regulation = 2,9,16; amotivation = 3,12,17.

Source: Tremblay et al (2009).

Intended Use of the WEIMS

The WEIMS produces 6 individual scores based on the subscales.

Variable	Descriptive statistics			
	<i>M</i>	<i>SD</i>	Skew	<i>r</i>
Intrinsic motivation				
IM4	3.61	1.08	-.415	.79
IM8	3.59	1.50	-.467	.88
IM15	3.57	1.59	-.476	.86
Integrated regulation				
INTEG5	3.06	1.30	-.203	.85
INTEG10	3.47	1.20	-.259	.88
INTEG18	3.22	1.21	-.123	.86
Identified regulation				
IDEN1	2.91	1.27	-.008	.73
IDEN7	3.05	1.28	-.167	.80
IDEN14	2.98	1.08	-.071	.80
Introjected regulation				
INTRO6	3.43	1.29	-0.482	.79
INTRO11	3.41	1.22	-0.466	.84
INTRO13	3.20	1.34	-0.163	.76
External regulation				
EXT2	3.68	1.13	-0.519	.84
EXT9	3.80	1.24	-0.716	.76
EXT16	3.76	1.14	-0.482	.88
Amotivation				
AMO3	1.52	.80	1.388	.59
AMO12	2.50	1.28	0.504	.86
AMO17	2.18	1.08	4.060	.81

Source: Tremblay et al. (2009)

Using such a scale, the researcher can understand whether the individual is intrinsically or extrinsically motivated. The intrinsic motivation score is the advantage of the scale. By obtaining an intrinsic motivation score relative to the types of extrinsic motivation, the researcher can compare the individual's intrinsic motivation with the intrinsic motivation of other individuals. If the individual is extrinsically motivated, the scale will allow the researcher to understand which of the five types the individual considers to be the most dominating.

CHAPTER III: METHODOLOGY

Introduction

The motivation of employees has always been an important area of study for organizations (Plate & Stone 1974; Gibbs 1980; Mason-Smith 1999; Ryan & Deci 2000; Ballentine, McKenzie, Wysocki, & Kepner 2003; Rainey 2003; Grant 2008; Lei 2010). However, many organizations rely heavily on tangible extrinsic incentives to cultivate the motivation of its employees (Benabou & Tirole 2003; Frey & Jegen 2001; Houston 2009). Recent research from cognitive psychology suggests that these extrinsic incentives can have an opposite effect on employee motivation (Deci 1971; Lepper, Greene, & Nisbett 1973; Deci & Ryan 1985; Deci, Koestner, & Ryan 1999; Frey & Jegen 2001; Medic, Mack, Wilson, & Starkes 2007). Sometimes referred to as “crowding,” these extrinsic incentives can reduce the employees’ intrinsic motivation and thereby their performance. While this effect is well studied, two issues warrant additional research on the effect of extrinsic incentives on motivation. First, few studies have researched the impact of non-monetary extrinsic incentives such as trophies, plaques, and certificates. Secondly, the impact of non-monetary extrinsic incentives rarely considered volunteer populations, which typically heavily rely on non-monetary extrinsic incentives (Deadrick & Scott 1987; Houston 2009). Therefore, the goal of this study was to evaluate the impact of non-monetary extrinsic incentives on the motivation of both career and volunteer firefighters.

Research Question and Hypothesis

With this research goal, I designed a study that measures the impact of non-monetary extrinsic incentives on the intrinsic motivation of career and volunteer firefighters. Specifically,

I designed a field study reviewing the impact on firefighters in fire departments with and without current reward systems.

Research Question:

Do non-monetary extrinsic incentives reduce the intrinsic motivation of career and volunteer firefighters in Virginia?

Hypothesis 1:

Using CET with intrinsic motivation as the dependent variable and the non-monetary reward as the main independent variable, both career and volunteer firefighters who have received non-monetary extrinsic incentives will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary extrinsic incentives.

Hypothesis 2:

Using CET and Equity Theory with intrinsic motivation as the dependent variable and the non-monetary reward as the main independent variable, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives

Hypothesis 3:

Using the theory of discounting, with intrinsic motivation as the dependent variable and time elapsed from receiving the non-monetary reward as the main independent variable, delays in receipt of the non-monetary extrinsic incentive will result weaken the rewards impact and result in higher intrinsic motivation.

Hypothesis 4:

Using Equity Theory, with intrinsic motivation as the dependent variable and the non-monetary reward and department type as the main independent variable, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

Research Design

Sample

The population for this study focused on firefighters in the Commonwealth of Virginia. As of June 8, 2010, there were 598 Primary Fire Departments. Among these, there were 18 career fire departments, 476 volunteer fire departments, and 104 combination fire departments,

which are mixed between career and volunteer personnel. All fire departments are divided into 7 divisions or areas served in the Commonwealth of Virginia. Primary Fire Departments are defined as “municipal fire departments that provide fire service response in a community” (Virginia Department of Fire Programs 2010). In an effort to measure competing effects of extrinsic rewards on different populations, this study will sample from career, volunteer, and combination fire departments.

Using data provided by the VDFP 2010 Needs Assessment, this study evaluated the impact of non-monetary extrinsic incentives on intrinsic motivation for career and volunteer firefighters. Removing fire departments with monetary or monetary-related extrinsic incentives (paid training, money/ bonuses, local tax reductions, and business discounts); the resulting population was 29 fire departments with “no incentives or rewards” and 91 fire departments with department clothing and/or decals, the non-monetary extrinsic incentive of interest.

Using the data, I selected 18 fire departments to administer the Work Extrinsic and Intrinsic Motivation Scale (WEIMS) as a measure of intrinsic motivation. The WEIMS is a unique scale that allows for the measure of intrinsic and extrinsic motivation for a general activity. Additionally, the WEIMS allows the researcher to measure multiple types of extrinsic motivation. The fire departments were selected through random sampling using Apple’s *Numbers*’ “Rand” function stratified on population and area served (rural vs. urban vs. suburban). All groups indicated that they utilized Department clothing as the incentive system.

The first urban only group included two volunteer, one combination and one career fire department. The second rural only group included two volunteer and two combination fire departments. The third group included one volunteer and one combination fire department serving suburban and rural areas. The fourth group included two volunteer fire departments

serving urban, suburban, and rural areas. The fifth group included two volunteer fire departments serving urban and suburban areas. The last group is the control group without Department hats and clothing. This group included one career, one career/combo, and two volunteer fire departments. The following figure shows the groups graphically.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Urban Only	Rural Only	Combo	Combo (Urb,	Combo (Urb,	No Reward
2 volunteer	2 volunteer	(Sub/Rural)	Sub, Rur) 2	Sub) 2	2
1 Combo	2 Combo	1 volunteer	volunteer	volunteer	volunteer 1
1 Career		1 Combo			Combo 1
					Career

Prior to the data collection, I e-mailed letters to each fire department using contact information available through the VDFP requesting their participation in the study. VDFP updates the database yearly for record keeping purposes. VDFP also uses the information to conduct their annual needs assessment (Virginia Department of Fire Programs 2008). VDFP collects information such as addresses, phone/fax numbers, email addresses, and current fire chief's names of all Virginia Fire Departments. This information is updated in the Fire Service Training Records System (FSTRS) (Virginia Department of Fire Programs 2008).

In order to accurately measure hypothesis 3, I asked if the firefighter received a non-monetary extrinsic reward (department clothing) within the last month, six months, year, or longer. At the end of the survey, I placed the following demographic questions in an effort to further separate the populations: income range, department type, and level of education. The demographic questions should go at the end so as to not affect response rates (Dillman, 2000; Andrews, Nonnecke, & Preece, 2003).

Survey Manipulation

The Work Extrinsic and Intrinsic Motivation Scale was discussed in chapter 2. While the WEIMS allows for testing of both intrinsic and extrinsic motivation, it also presents issues when

surveying non-income generating populations such as volunteers. Therefore, I amended the survey to remove questions directed at external regulations to the end of the survey.

Specifically, these were 2, 9, and 16. I presented these at the end of the survey as an option for career firefighters.

Secondly, I also added questions to further test the relevant hypotheses and address a potential limitation. I first added a question to the survey to obtain basic demographic questions provided in the literature to affect volunteer behavior (education and income range). These questions will be located at the end of the survey to maintain interest and connectedness (Dillman 2000, 94). The design of these questions followed traditional surveys. To collect data on education, and income, I used amended categories established by the U.S. Census Bureau on education categories (U.S. Census Bureau 2010). This technique was also used in other research surveys (Palaniappan, Wong, Shin, Moreno, & Otero-Sabogal 2009). To collect income data, I used a general income range from the U.S. Census Bureau because it was not central to the study (Davern, Rodin, Beebe, & Call 2005).

To address the limitation of whether the reward was expected or unexpected, I added a question to determine if the firefighter expected to receive the non-monetary extrinsic incentive. To address hyperbolic discounting, I added a question to determine the length of time removed from the actual reward administration in time ranges. Finally, I added a question to determine if volunteer firefighters were seeking to become paid firefighters, which may explain differences in the intrinsic motivation of volunteer firefighters during the time of the survey. For example, volunteers seeking to become paid firefighters may have lower intrinsic motivation and higher extrinsic motivation as measured by the WEIMS. A complete survey is listed below in Appendix A.

Data Collection

The data collection method that was utilized for this study was the use of an internet-based survey. Internet-based surveys can be more cost effective than traditional mailed surveys (Wright 2005; Bettinger, Merry, & Grebner 2010). Internet based surveys are also becoming extremely popular and “fruitful” (Wright 2005). Internet based surveys also allow individuals to disclose answers that may be unpopular (Wright 2005) which may assist in gaining honest answers about job characteristics in firefighting. One of the issues with internet-based surveys is identifying individuals in organizations (Wright 2005). However, this survey sought to sample entire fire departments and survey all firefighters within the department.

The largest issue with using internet-based surveys is the problem with population access. The literature reveals that coverage bias or bias due to sampled people not having or choosing not to access the internet is the largest concern (Kay & Johnson, 1999; Crawford, Couper, & Lamias, 2001; Solomon 2001). While this was an early concern for the study, the VDFP solely utilized internet-based surveys in their *Virginia Fire Service Needs Assessment* (Virginia Department of Fire Programs 2008, 2009, 2010). Using an online survey collection website, the VDFP received an 89 percent survey response rate from a sampled population of Virginia Fire Departments (Virginia Department of Fire Programs 2008, 12).

I coordinated with the VDFP to gain their support for the study. Specifically, the Marketing and Communications Manager of the VDFP offered to send the selected fire departments a message to encourage their participation. An email message was sent to the points of contact of selected fire departments inviting them to participate in the survey. The email included information on the survey as well as a link to the survey. Each firefighter from the sampled fire departments was emailed directly. The online survey tool will be

surveymonkey.com. Survey monkey is an online survey tool that allows users to quickly answer surveys while allowing researchers to easily download and organize the results.

The 2008, 2009, and 2010 Virginia Department of Fire Programs Needs Assessment sent reminder emails, letters and postcards to the population reminding them of upcoming deadlines. According to their methodology section on the 2008 Virginia Department of Fire Programs Needs Assessment, the VDFP sent out reminders every 7-10 days (Virginia Department of Fire Programs 2008). This study used the same aggressive reminding system to ensure a high survey response.

Because the chosen fire departments did or did not have the non-monetary extrinsic incentive system in place, I only administered the survey to the selected fire departments. The survey was asked to be returned in two weeks.

Data Analysis

The data was analyzed using multiple regression. Multiple regression is a statistical method for studying correlation and prediction analysis. Yahaya, Abdullah, and Zainodin (2012) state, “multiple regression analysis...is a statistical technique that can be used to analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables” (123-124). The advantages of multiple regression are:

- The effects of several explanatory variables on a dependent variable can be estimated;
- Even in evaluating the effect of a single variable, it is still better to use multiple regression to avoid a biased estimation of the regression coefficient (Wilkinson 2005, 141).

Because impacts on intrinsic motivation rarely happen in a vacuum, it is important to use multiple regression to understand the impact of extrinsic non-monetary rewards in a real-world environment.

Analysis Dependent Variable

The WEIMS produces individual scores for intrinsic motivation and the five different types of extrinsic motivation. The intrinsic motivation and external regulation (a measure of extrinsic rewards as defined by Deci) score were the two measures of interest for the dependent variable.

Analysis Independent Variable or Factors

The two main independent variables of interest is the status of the firefighter and whether they did or did not receive the non-monetary extrinsic incentive. This study sought to study the differing effects of non-monetary extrinsic rewards on intrinsic motivation for career versus volunteer personnel. The literature reveals that in order for the extrinsic rewards to undermine intrinsic motivation, the reward must be important to the individual (Deci, Koestner, & Ryan 1999). This study evaluated what value, if any, career firefighters place on non-monetary extrinsic incentives. Secondly, this study evaluated what impact Gibbs' (1980) reward equity has on the undermining effect of extrinsic rewards. In order to test this, firefighter status (career vs. volunteer) was included.

In an effort to measure discounting, this study will ask the individual firefighter if he or she has received the department clothing within less than 6 months, between 6 months and a year, or longer. Finally, this study also utilized demographic information from each firefighter including age and education level (Medic, Mack, Wilson, & Starkes 2007) to see if there were statistically significant differences in intrinsic motivation for various demographic factors.

Analysis

The unit of analysis for the study was the individual firefighter. The unit of analysis for the study is the individual firefighter. The data will be analyzed using multiple regression. The dependent variable will be the WEIMS intrinsic motivation score and the two main independent

variables of interest were firefighter status (career vs. volunteer) and receipt of the non-monetary extrinsic incentive (t-shirt). The WEIMS is produced by the WEIMS scale and measures an individual's extrinsic and intrinsic motivation level for a given task or activity.

Hypothesis Testing

Hypothesis 1:

Using CET with intrinsic motivation as the dependent variable and the non-monetary reward as the main independent variable, both career and volunteer firefighters who have received non-monetary extrinsic incentives will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary extrinsic incentives.

To test the first hypothesis, I used multiple regression analysis to evaluate the correlation.

Hypothesis 2:

Using CET and Equity Theory with intrinsic motivation as the dependent variable and the non-monetary reward as the main independent variable, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives

To test the second hypothesis, I compared the mean WEIMS score for career firefighters versus volunteer firefighters using multiple regression analysis.

Table 1 – Hypothesis Illustration:

	Firefighter (Career)		Firefighter (Vol)
Reward (Yes)	WEIMS Score	<i>vs (Hypothesis 2)</i>	WEIMS Score
	<i>vs (Hypothesis 1)</i>		<i>vs (Hypothesis 1)</i>
Reward (No)	WEIMS Score		WEIMS Score

Hypothesis 3:

Using the theory of discounting, with intrinsic motivation as the dependent variable and time elapsed from receiving the non-monetary reward as the main independent variable, delays in receipt of the non-monetary extrinsic incentive will result weaken the rewards impact and result in higher intrinsic motivation.

To test the third hypothesis, I used multiple regression analysis to evaluate the impact of length of time between rewards to measure the level of intrinsic motivation. The dependent variable (y) was the intrinsic WEIMS score. The independent variables were the amount of time

that has passed from receipt of the non-monetary extrinsic incentive. All other independent variables will be held constant.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 \dots + \beta_k X_{ik} + \varepsilon_i$$

Where:

Y is the intrinsic WEIMS Score

α is the constant

$\beta_1 X_1$ is the time after the reward was administered (6 months, 6 months to a year, more than a year)

ε is the error.

Hypothesis 4:

Using Equity Theory, with intrinsic motivation as the dependent variable and the non-monetary reward and department type as the main independent variable, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

To test the fourth hypothesis, I compared the mean WEIMS score for volunteer firefighters in volunteer departments versus the mean WEIMS score for volunteers in combination departments using multiple regression analysis.

Limitations

The greatest limitation of this study was the differing impact of expected vs. unexpected rewards. The literature suggests that expected rewards are more controlling and will undermine intrinsic motivation more (Deci 1972). However, this conclusion was made in laboratory settings prior to the administration of the extrinsic reward. Because this study only studied fire departments with the non-monetary extrinsic incentive system in place, it was not able to gauge whether the firefighter expected to receive the reward without asking the question in the survey. However, because t-shirts may be an expected incentive as a part of the uniform, firefighters may “expect” or have expected this reward as a condition of service in fire departments.

Because this study only surveyed firefighters in the Commonwealth of Virginia, caution must be exercised in generalization of the findings or making conclusions. However, the intention of the study was contribute to the field of literature on the undermining effect of extrinsic rewards particularly on public and non-profit employees. Therefore, other researchers will be able to replicate this study using highly utilized rewards.

Another limitation was anticipated response rate. The VDFP received an 89 percent response rate. However, this response rate may have been inflated by the VDFP's status as a government organization. While this study received letters of encouragement from the VDFP, it was not able to reach the high response rate generated by the VDFP.

Institutional Review Board (IRB)

The Institutional Review Board (IRB) at Virginia Commonwealth University (VCU) must review all research involving human subjects to ensure compliance with federal, state, and local regulations (VCU Research 2011).

The human subjects to be reviewed are career and volunteer firefighters from selected fire departments in the Commonwealth in Virginia. However, because this study surveyed firefighters of departments with pre-existing reward programs, there was minimal risk to the individual using the Department of Health and Human Services' definition of "a risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater, in and of themselves, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests" (Department of Health and Human Services 1993). The intrinsic motivation of the individual has already been established and the survey will not affect that level. Additionally, this study was not instituting a reward program in fire departments and will not, therefore, affect intrinsic levels as anticipated

from the review. Therefore, I requested an exempt review from the IRB. I was granted exempt review approval by the IRB on October 30, 2012.

The survey instrument (WEIMS) was taken from the Canadian Journal of Behavioural Science. I was given permission to use the instrument by the authors on March 24, 2011. The Canadian Journal of Behavioural Science is a peer-reviewed journal published in partnership with the Canadian Psychological Association (CPA).

CHAPTER IV: DATA ANALYSIS

In chapter IV, the results of the methodology outlined in the previous chapter are discussed. I sought to evaluate the impact of non-monetary extrinsic incentives on the intrinsic motivation of career and volunteer firefighters. The research question for the study was:

Do non-monetary extrinsic incentives reduce the intrinsic motivation of career and volunteer firefighters in Virginia?

To answer the research question, the four research hypotheses were:

Hypothesis 1:

Using CET, both career and volunteer firefighters who have received non-monetary extrinsic incentives will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary extrinsic incentives.

Hypothesis 2:

Using CET and Equity Theory, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives

Hypothesis 3:

Using the theory of discounting, delays in receipt of the non-monetary extrinsic incentive will result in higher intrinsic motivation.

Hypothesis 4:

Using Equity Theory, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

The dependent variable for this study was the measure of intrinsic motivation by using the WEIMS survey. Tremblay et al. (2009) calculated this score by the questions:

- “Because I derive much pleasure from learning new things,”
- “For the satisfaction I experience from taking on interesting challenges,”
- “For the satisfaction I experience when I am successful at doing difficult tasks.”

This scale was scored on a Likert scale from 1 to 7 where the maximum intrinsic motivation score for an individual is 21 (226). All averages resulting from the scales were averaged without weights.

The two main independent variables for the study were the status of the firefighter (career vs. volunteer) and whether the firefighter received the non-monetary extrinsic incentive of interest, department t-shirt. The other control independent variables for the study included the time period of the receipt of the reward, level of income and level of education.

This chapter is divided into three different sections. The first discusses the demographic characteristics of the surveyed population along with reliability analysis of the WEIMS survey. The third discusses the Multiple Regression results along with the tests to satisfy the associated assumptions. The fourth discusses the hypothesis testing and summary.

Sample Characteristics, Descriptive Statistics, and Reliability Analysis

This section describes the results of the analysis on the demographic statistics for the sampled population. Frequency analysis was conducted on firefighter type, department type, levels of education, and income range. Descriptive statistics was also conducted on the individual Work Extrinsic and Intrinsic Motivation Scales. Reliability analysis was also conducted on the individual WEIMS scales including Cronbach's Alpha and bivariate correlation.

Sample Descriptive Statistics

The distribution of the 311 Virginia career and volunteer firefighters are presented in Table 2. There were more career firefighters (53.7 percent) who responded to the survey than did volunteer firefighters (46.3 percent). This was remotely representative of the active personnel for Virginia. According the 2012 Needs Assessment, 65 percent of all active firefighters were

reported as being classified as volunteer firefighters, while career firefighters accounted for 34 percent (23). This difference could be attributed to technological limitations or computer access availability at some volunteer fire departments.

Table 2. Firefighter Type, (N=311)

STATUS			
	Frequency	Percent	Cumulative Percent
Career	167	53.7	53.7
Volunteer	144	46.3	100.0
Total	311	100.0	

Department type is listed in Table 3. The majority of the respondents were from combination departments (49.8 percent). Volunteer departments represented 32.2 percent while career departments represented 18.0 percent. While this is not representative of the firefighting population in Virginia as listed in the 2012 VDFP Needs Assessment, it was expected as this study sought to compare volunteer and career firefighters in combination departments.

Table 3. Department Type, (N=311)

DEPARTMENT TYPE			
	Frequency	Percent	Cumulative Percent
Career-only	56	18.0	18.0
Combination	155	49.8	67.8
Volunteer-only	100	32.2	100.0
Total	311	100.0	

The levels of education are reported in Table 4. Four respondents skipped this question leaving 307 respondents. The majority of the respondents reported having either some college (35.2 percent) or an associate's degree (28.7 percent). The number of firefighters with a graduate degree (5.5) percent decreased with increasing education, which is consistent with

Wilson's (2000) finding that firefighters have an inverse relationship to volunteering and education.

Table 4. Highest Levels of Education (N=307)

EDUCATION LEVEL			
	Frequency	Percent	Cumulative Percent
High School Diploma	27	8.8	8.8
Associate's Degree	88	28.7	37.5
Some College	108	35.2	72.6
Bachelor's Degree	67	21.8	94.5
Graduate	17	5.5	100.0
Total	307	100.0	

The income ranges for the survey respondents are reported in Table 5. Eight respondents skipped this question in the survey. Skipping this question is common in the literature.

Weisberg states, "the question that is most notorious for refusals is the income question" (137).

The majority of respondents reported earning between \$20,000 - \$39,999 (27.4 percent) and \$40,000 - \$59,999 (25.1 percent). This is consistent with the Bureau of Labor Statistics report that median pay for firefighters in 2010 was \$45,250 per year (Bureau of Labor Statistics 2012).

Additionally, the graphs are separated by career and volunteer firefighters. Again, the results were as expected with the majority of career firefighters reported incomes above \$40,000 while the majority of volunteer firefighters reported incomes below \$40,000.

Table 5. Income Range (N=303).

Career Firefighter INCOME	Volunteer Firefighter INCOME
---------------------------	------------------------------

	Frequency	Percent	Cumulative Percent		Frequency	Percent	Cumulative Percent
< \$4,999	2	1.2	1.2	< \$4,999	7	5.1	5.1
\$5,000 - \$19,999	0	N/A	1.2	\$5,000 - \$19,999	33	23.9	29.0
\$20,000 - \$39,999	30	18.2	19.4	\$20,000 - \$39,999	53	38.4	67.4
\$40,000 - \$59,999	56	33.9	53.3	\$40,000 - \$59,999	20	14.5	81.9
\$60,000 - \$79,999	42	25.5	78.8	\$60,000 - \$79,999	11	8.0	89.9
> \$80,000	35	21.2	100.0	> \$80,000	14	10.1	100.0
Total	165	100.0		Total	138	100.0	

Scale Variables Descriptive Statistics

The means, standard deviations, and minimum and maximum values for the five extrinsic motivation scales and one intrinsic motivation scale are below. The five extrinsic motivation scales and one intrinsic motivation scale were comprised as follows:

- Intrinsic motivation - 3 items
- Integrated regulation - 3 items
- Identified regulation - 3 items
- Introjected regulation - 3 items
- External regulation - 3 items
- Amotivation - 3 items

Results of the descriptive statistics for each scale are listed in Table 6. Intrinsic motivation had the highest mean (5.64) with a standard deviation of 1.46. This was followed by integrated regulation (5.58) with a standard deviation of 1.74, identified regulation (4.12) with a standard deviation of 2.16, introjected regulation (4.85) with a standard deviation of 2.07, external regulation (4.57) with a standard deviation of 1.86, and amotivation (1.95) with a standard deviation of 1.44. It appeared that the population of firefighters sampled were

extremely intrinsically motivated to do their job (5.64) and not highly extrinsically motivated (4.57).

Table 6. Descriptive Statistics of Scales.

Descriptive Statistics				
	Minimum	Maximum	Mean	Std. Deviation
Identified Regulation	1	7	4.12	2.161
Amotivation	1	7	1.95	1.445
Intrinsic Motivation	1	7	5.64	1.463
Integrated Regulation	1	7	5.58	1.741
Introjected Regulation	1	7	4.85	2.074
External Regulation	1	7	4.57	1.865

The motivation levels as identified by the scales for career firefighters are listed in Table

7. As expected, career firefighters scored extremely high on the intrinsic motivation scale and the lowest on the amotivation scale.

Table 7. Motivation of Career Firefighters.

Descriptive Statistics	
Scale	Mean
Integrated Regulation	5.8272
Intrinsic Motivation	5.8049
Introjected Regulation	5.0101
Identified Regulation	4.6646
External Regulation	4.5495
Amotivation	2.0143

The motivation levels as identified by the scales for volunteer firefighters are listed in Table 8. Volunteer firefighters also scored the highest on intrinsic motivation and the lowest on the amotivation scale. External regulation questions were not offered to volunteer firefighters because they did not receive income for being a firefighter.

Table 8. Motivation of Volunteer Firefighters.

Descriptive Statistics	
Scale	Mean
Intrinsic Motivation	5.4374
Integrated Regulation	5.3143
Introjected Regulation	4.6432
Identified Regulation	3.4855
Amotivation	1.8429
External Regulation	N/A

Validity and Reliability of Scales

Validity was established through a review of the literature. Specifically, Tremblay et al.'s (2009) study provided validity that the WEIMS scales accurately measured the different levels of motivation. Establishing validity allows for confidence that the WEIMS scales correctly measures the various levels of motivation. Apart from the literature, I also analyzed the bivariate correlations of the data.

Before beginning analysis, I also analyzed the reliability of the data. Reliability is important because unreliable data can lead to measurement error. Measurement error can drastically impact the regression fits. It can also lead to incorrect models (Carroll & Galindo 1998, 4). Essentially reliability was tested to enlist confidence that the scales were measuring the intended effect.

To determine the reliability of the WEIMS sub-scales, Cronbach's alpha coefficient was used. This is a recommended method for testing reliability of a questionnaire (Hinton, Brownlow, & McMurray 2004; Casey 2008). Andrew, Pederson, and McEvoy (2011) state:

Cronbach's alpha measures how well a set of variables or items measures a single, unidimensional latent construct. It is essentially a correlation between the item responses in a questionnaire; assuming the statistic is directed toward a group of items intended to measure the same construct, Cronbach's alpha values will be high when the correlations between the respective questionnaire items

are high. Cronbach's alpha values range from 0 to 1, and in the social sciences, values at or above 0.7 are desirable. (202).

Tremblay et al. (2009) provided 3 questions for each scale. Cronbach's alpha was provided for each of the 6 scales.

Reliability of WEIMS Scales

For the WEIMS Scale, reliability is important because each scale aims to measure a different level of motivation. Therefore, reliability was established to ensure confidence that correlations between the questionnaire items were high. I was primarily interested in Tremblay et al's (2009) findings that the questions from the WEIMS each measured the associated motivation level as groups.

As presented in Table 8, Cronbach's alpha level for the WEIMS ranged from .66 to .85. Specifically, the coefficients in my study were .66 for amotivation, .74 for identified regulation, .79 for intrinsic motivation, .74 for introjected regulation, .79 for external regulation, and .85 for integrated regulation. This was reflective of Tremblay et al.'s (2009) Cronbach alpha scores that ranged from .64 to .83.

Table 8. Reliability of Coefficients for WEIMS Scales.

Variables	Items	Cronbach's Alpha
AMOTIVATION	3	0.667
IDENTIFIED REGULATION	3	0.736
INTRINSIC MOTIVATION	3	0.785
INTROJECTED REGULATION	3	0.735
EXTERNAL REGULATION	3	0.782
INTEGRATED REGULATION	3	0.852

Bivariate Correlation

The final test I conducted was the Pearson bivariate correlation between the WEIMS scales and all other study variables are presented in Table 13. Bivariate correlations are "an indicator for the size of the variables' interdependence and the direction of the influence"

(Clausen 2005, 185). I used bivariate correlation to “establish the existence of relationships between the independent variable and the dependent variable at the beginning of a research project” (Yang 2008, 442). This test is useful because it provided understanding of the relationship between the independent variables and the dependent variable, intrinsic motivation. It allowed each variable to be singled out and evaluated against the dependent variable to understand the positive or negative impact it has on the dependent variable and the strength of that association.

Specifically, I tested the relationship between the extrinsic motivation and intrinsic motivation portion of the WEIMS scales and the independent variables: whether the firefighter was motivated to be a paid firefighter, the career or volunteer firefighter status, the receipt of the non-monetary incentive (t-shirt), the length of time from receipt of the non-monetary incentive (t-shirt), whether the firefighter expected to receive a t-shirt, the receipt of any non-monetary incentive, whether the firefighter expected to receive any non-monetary incentive, level of income, level of education, and department type.

The results found that whether the firefighter was motivated to be a paid firefighter ($r = .241, p < .01$), receipt of the non-monetary incentive (t-shirt) ($r = -.186, p < .01$), the receipt of any non-monetary incentive ($r = -.208, p < .01$), the level of income ($r = .148, p < .05$), and the career or volunteer firefighter status ($r = -.150, p < .01$) were significantly related to intrinsic motivation. Only whether the firefighter was motivated to be a paid firefighter and level of income had positive correlations with intrinsic motivation. The length of time from receipt of the non-monetary incentive (t-shirt), whether the firefighter expected to receive a t-shirt, whether the firefighter expected to receive any non-monetary incentive, level of education, and department type were not significantly related to intrinsic motivation.

Whether the firefighter was motivated to be a paid firefighter ($r = .375$, $p < .01$), whether the firefighter expected to receive a t-shirt ($r = -.157$, $p < .05$), level of income ($r = .263$, $p < .01$) were significantly related to extrinsic motivation. Only whether the firefighter expected to receive a t-shirt had a negative correlation with extrinsic motivation. The receipt of the non-monetary incentive (t-shirt), the length of time from receipt of the non-monetary incentive (t-shirt), the receipt of any non-monetary incentive, whether the firefighter expected to receive any non-monetary incentive, level of education, and department type were not significantly related to extrinsic motivation.

One of the goals of bivariate correlations is to evaluate the relationship between the variables. The dependent variable of interest was the intrinsic motivation scale of the WEIMS survey. Using bivariate correlation, I found the receipt of the non-monetary extrinsic incentive (t-shirt) to have a significant negative relationship with intrinsic motivation. Specifically, firefighters that did receive the department t-shirt had a lower level of intrinsic motivation than those that did not. This relationship was statistically significant.

Table 13. Bivariate Correlation Matrix

		Correlations				
		SCALE IM	SCALE EXTRINSIC	SCALE IDENTEREG	SCALE INTEGREG	SCALE AM
PAID	Pearson Correlation	.241**	.375**	.574**	.245**	0.068
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.252
TSHIRT	Pearson Correlation	-.186**	-0.017	-0.063	-.178**	-0.029
	Sig. (2-tailed)	0.001	0.829	0.279	0.002	0.613

Correlations						
TSHIRT TIME	Pearson Correlation	0.052	0.115	-0.011	0.025	0.012
	Sig. (2-tailed)	0.424	0.160	0.871	0.699	0.860
TSHIRT EXPECT	Pearson Correlation	0.019	-.157*	-0.085	0.058	-.116*
	Sig. (2-tailed)	0.736	0.045	0.141	0.313	0.043
NON MONEY	Pearson Correlation	-.208**	0.111	-0.063	-.199**	-0.068
	Sig. (2-tailed)	0.000	0.159	0.280	0.001	0.236
NON MONEY EXPECT	Pearson Correlation	-0.073	-0.002	-0.018	-0.072	-.120*
	Sig. (2-tailed)	0.203	0.983	0.762	0.212	0.036
INCOME	Pearson Correlation	.148*	.263**	0.100	.149**	-0.028
	Sig. (2-tailed)	0.011	0.001	0.087	0.010	0.633
EDU	Pearson Correlation	0.028	0.114	0.029	-0.071	0.047
	Sig. (2-tailed)	0.632	0.144	0.613	0.221	0.415
DEPT TYPE	Pearson Correlation	-0.048	-0.081	-0.112	-0.022	0.069
	Sig. (2-tailed)	0.405	0.303	0.051	0.701	0.231

Correlations						
CAREER	Pearson Correlation	-.150**	.a	-.339**	-.168**	-0.077
	Sig. (2-tailed)	0.009	0.000	0.000	0.003	0.180

Multiple Regression

The four hypotheses were tested using multiple regression analysis. The advantages of multiple regression are, as stated in Chapter 3:

- The effects of several explanatory variables on a dependent variable can be estimated;
- Even in evaluating the effect of a single variable, it is still better to use multiple regression to avoid a biased estimation of the regression coefficient (Wilkinson 2005, 141).

Additionally, it was important to understand the real-world impact extrinsic rewards would have on intrinsic motivation considering all other factors. Multiple regression allows for the analysis of the extrinsic reward along with other variables.

For this study, intrinsic motivation (SCALEIM) was the Dependent Variable. The independent variables were:

- The receipt of the non-monetary incentive (t-shirt)(TSHIRT);
- length of time between rewards (TSHIRT TIME),
- level of income (INCOME);
- level of education (EDU);
- firefighter status (CAREER);
- department type (DEPT);
- whether the intrinsic motivation was affected by the firefighter's motivation was attributed to wanting to be a paid firefighter (PAID);
- the receipt of any non-monetary incentive (NO MON); and
- Whether the firefighter expected to receive any non-monetary incentive (NO MON EXPECT).

The three variables of importance from the literature were the receipt of the non-monetary incentive (t-shirt), length of time between rewards, and firefighter status.

Assumptions of Multiple Regression

Multiple regression has numerous assumptions (Berry & Feldman 1985; Larson-Hall 2010, Kleinbaum 2007) that must be satisfied. These assumptions specify “the conditions under which multiple regression works well” (Allison 119). Larson-Hall (2010) provides a “basic” list of assumptions and tests of the assumptions. The assumptions include:

- normal distribution where errors are normally distributed;
- homogeneity of variances where variance of y for each x is constant in the population;
- linearity where the relationship between x and y is linear and multicollinearity where explanatory variables are not highly inter-correlated (184).

Violations of each of these assumptions are important to consider before conducting any data analysis. If the data collected does not satisfy these assumptions, it can have an impact on the interpretation of the data. The first test to consider was whether the data was normally distributed or is the data spread evenly. Violation of normal distribution can skew relationships of the independent and dependent variables and also affect significance.

Secondly, I tested to understand whether the data was linear. Specifically, I was interested in whether the relationship between the data followed a linear trend and could therefore, be analyzed using multiple regression. Violation of linearity can under-estimate the relationship between the independent and dependent variables.

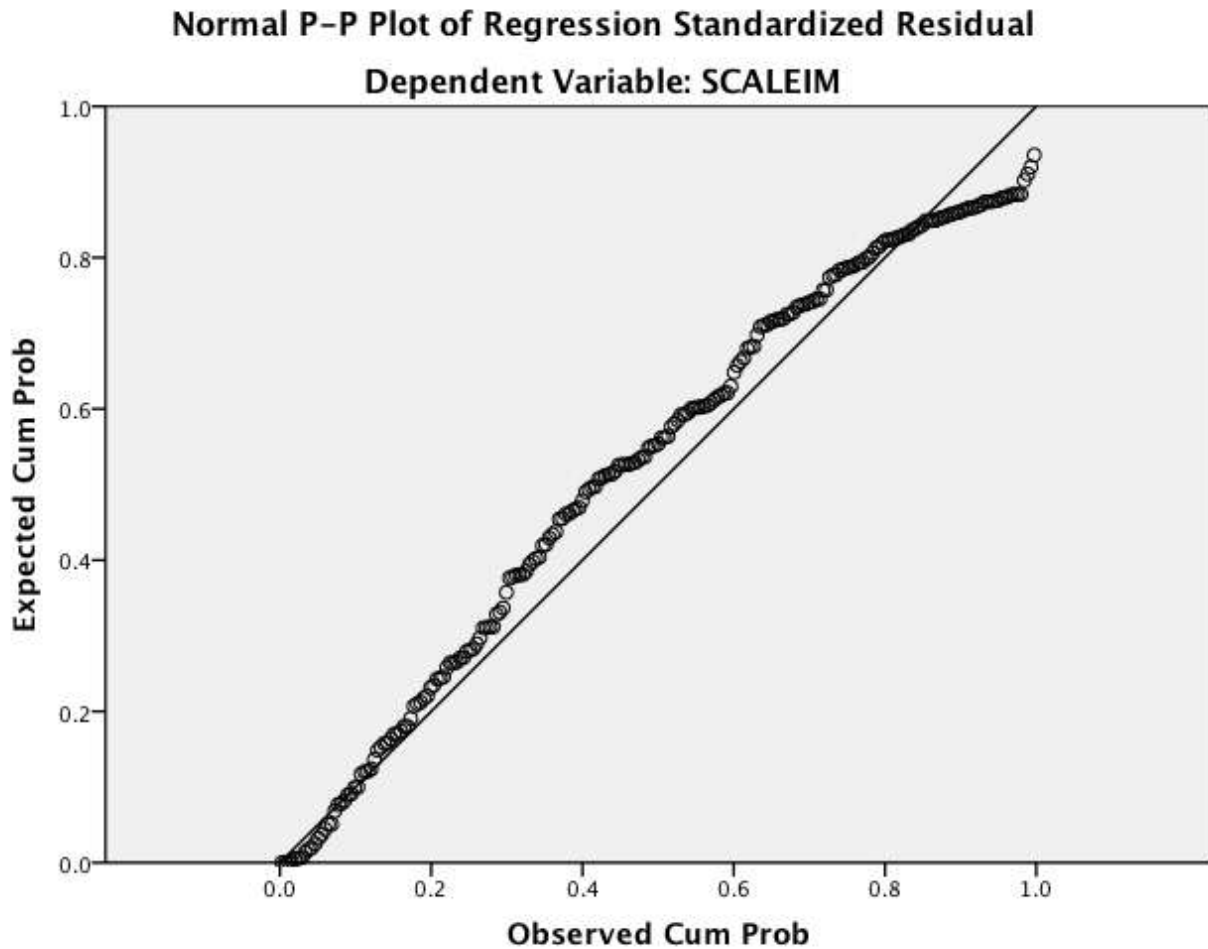
Finally, I wanted to ensure that changes in intrinsic motivation were the same at each level of the independent variables. Violation of homogeneity of variances can affect the findings and also potentially weaken the overall analysis. Therefore, I tested for these four assumptions.

Normal Distribution

To check for normal distribution, I produced a probability-probability plot, displayed in Graph 3. Visual tests were recommended when using sample sizes of 200 or more to evaluate

normal distribution (Field 2009). Huizingh (2007) states that “the closer the points are to the straight line, the closer the observed distribution is to the normal distribution” (242).

Graph 3. Probability-Probability Plot



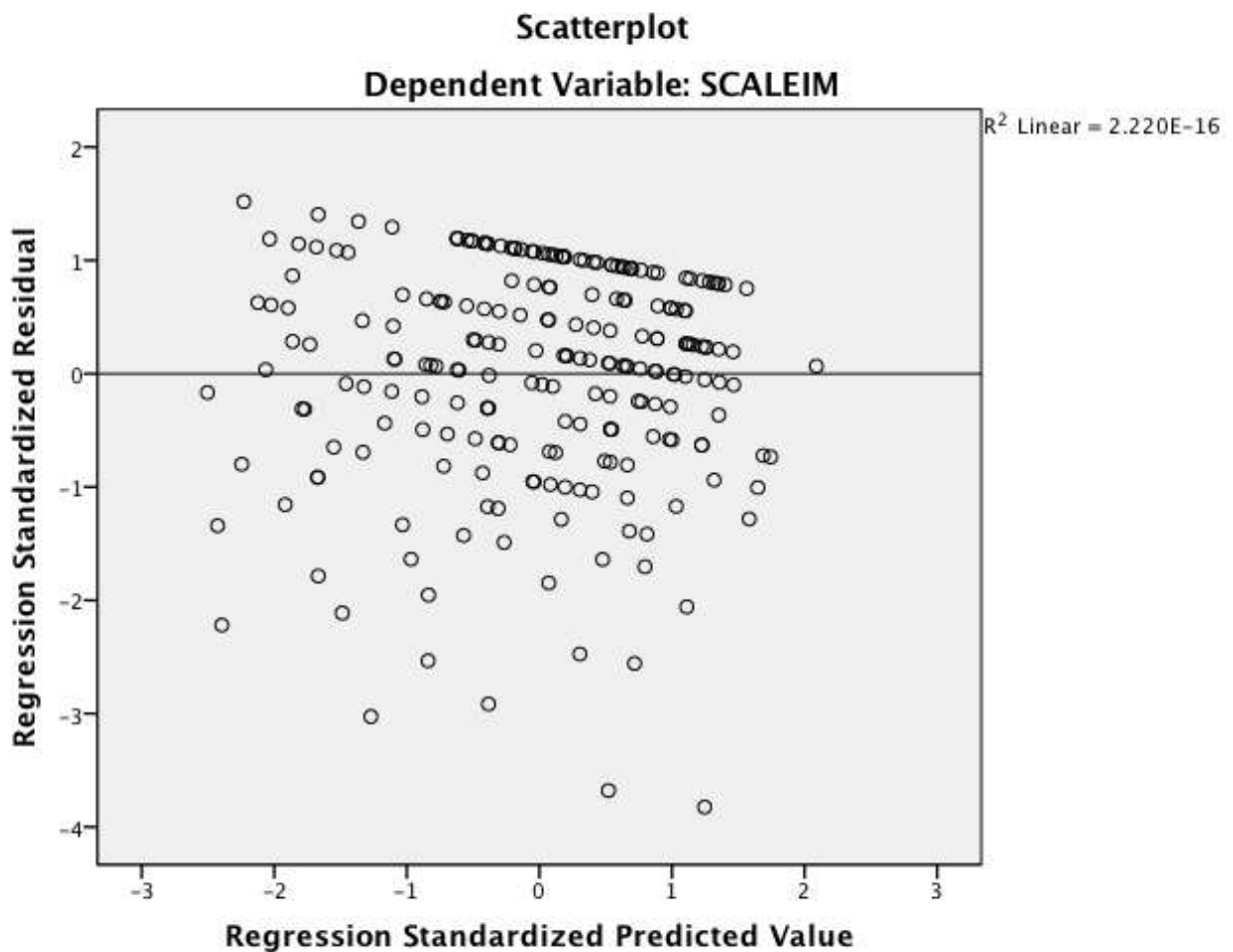
The probability-probability plot shows that most of the data points are close to the straight line. If normal distribution was violated, the points on the p-p plot would vary and not follow the line as closely. Therefore, I can conclude that the data is fairly normally distributed.

Homogeneity of Variance and Linearity

Homogeneity of Variance or homoscedasticity was checked by a scatter plot, displayed in Graph 4, of the dependent variable on the horizontal axis by the standardized residuals on the vertical axis (Crown 1998). Homoscedasticity is known as the “variance of error terms is

constant for different levels of explanatory variables” (78). Crown states that “if no heteroscedasticity is present, the plot will appear to be a random cloud” (80). Lawrence, Klimberg, & Lawrence (2009) state that heteroscedasticity is present when “a scatterplot of the residuals reveals a megaphone type of pattern, either increasing or decreasing in error variance with the independent variable” (124). Graph 4 also satisfies the linear assumption as most of the dots are near the line (Ary, Jacobs, Razavieh, & Sorenson 2010).

Graph 4. Scatterplot



A point of interest is the lines of dots that are “clumped” together. Because of the use of survey data, the resulting data was ordinal and not interval. The ordinal data type provides difficulties due to level of measurement. Specifically, “there are so few alternative values on X and Y that a

pepper of dots well-spread over the grid is impossible. Instead, what is typically observed are dense bunches of points” (Lewis-Beck 1995, 22). However, the majority of the points being near the line, the points do not resemble any pattern. For instance, the data points do not get larger or smaller in frequency suggesting a megaphone pattern. Therefore, because the points are both near the line and consistent across, I can conclude that heteroscedasticity is not present.

Multicollinearity

Leech, Barrett, & Morgan (2005) define multicollinearity as high intercorrelations among some set of the predictor variables. They go on to say, “multicollinearity happens when two or more predictors contain much of the same information” (103). According to Meyers, Gamst, & Guarino (2005) multicollinearity is indicated if the tolerance variable for a statistic is .01 or less. Additionally, Meyers, Gamst, & Guarino (2005) recommend a VIF of greater than 10 as indicative of multicollinearity. Table 23 displays that multicollinearity is not present among these independent variables.

Table 23. Collinearity Statistics

	Collinearity Statistics	
	Tolerance	VIF
NON MONEY	0.714	1.401
NON MONEY EXPECT	0.716	1.397
INCOME	0.851	1.175
EDU	0.900	1.112
DEPT	0.935	1.070
CAREER	0.607	1.648
TSHIRT	0.943	1.060
PAID	0.608	1.645

Multiple Regression Results

Regression analysis variables are displayed in Table 24. The bivariate correlation revealed that only whether the firefighter was motivated to be a paid firefighter ($r = .241, p < .01$), receipt of the non-monetary incentive (t-shirt) ($r = -.186, p < .01$), the receipt of any non-monetary incentive ($r = -.208, p < .01$), the level of income ($r = .148, p < .05$), and the career (dummy variable – 1) or volunteer firefighter (dummy variable – 0) status ($r = -.150, p < .01$) were significantly related to intrinsic motivation. However, Albright, Vinston, and Zappe (2010) make an important point. They state:

...although a variable is highly correlated with the dependent variable, it might also be highly correlated with other explanatory variables..[also] even if a variable's correlation with the dependent variable is small, its contribution when it is included with a number of other explanatory variables can be greater than anticipated" (625).

Therefore, no variables were immediately dismissed from the regression analysis.

Table 24. Descriptive Statistics: Multiple Regression.

Descriptive Statistics			
	Mean	Std. Deviation	N
SCALE IM	5.7966	1.15212	213
NON-MONEY	1.2723	0.44619	213
NO-MONEY EXPECT	1.9484	0.60824	213
INCOME	4.1502	1.24232	213
EDUCATION	3.0329	1.01119	213
CAREER	1.3427	0.47574	213
DEPT TYPE	2.2582	0.81495	213
TSHIRT TIME	1.9390	0.88543	213
PAID	4.33	2.556	213

Full Model

The results for the model summary are presented in Table 25. The model reports an R-Square of .156 and adjusted R-Square of .120. Therefore, the model explains about 16 percent of

the variability in intrinsic motivation over guessing the mean (Haaland 1989). This R-square is slightly lower than scores in the literature on motivation. In his study of the impact of achievement goals on intrinsic motivation, Asif (2011) reported an adjusted r-squared of .29. In his study on the contribution of the Sport Motivation Scale to an athlete's flow experience, Stavrou (2007) reported an adjusted r-squared of .30. Winston, Albright, Broadie, Lapin, and Whisler (2008) report "Regressions in these areas [behavioral] sometimes have R-squares in the 10% to 20% range...[however] explaining 20% of variation in some variable is better than not explaining anything at all" (909).

Table 25. Model Summary.

R	R Square	Adjusted R Square	Std. Error of the Estimate
.395 ^a	0.156	0.120	1.10994

The Analysis of Variance results are presented in Table 26. The residual or error is 231.61 while the total sum of squares is 274.37. This means that 16 percent of the variation of the intrinsic score is explained by the independent variables. The F statistic is also significant.

Table 26. ANOVA for Multiple Regression.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.759	8	5.345	4.338	.000 ^a
Residual	231.611	188	1.232		
Total	274.370	196			

The coefficient results for each independent variable are displayed in Table 27. The results show that four variables are significantly related to intrinsic motivation ($p < 0.05$). They were the receipt of any non-monetary extrinsic incentive (NO MON) ($p = .00$), the level of income of the firefighter (INCOME) ($p = .03$), firefighter status (CAREER) ($p = .00$), and

whether the firefighter wanted to be a paid firefighter (PAID) ($p = .00$). The variable of interest, receipt of the non-monetary extrinsic incentive (TSHIRT) ($p = .23$), was not statistically significant. Additionally, the variance inflation factor (VIF) for the coefficients suggests that none of the variables are over correlated. Firefighter status had a VIF of 2.56 well below the VIF cutoff of 10 (Cohen 2003) and was statistically significant. Therefore, in an effort to create a more accurate, reduced model, I removed variables using level of significance and theory as demonstrated by the literature (Berry & Feldman 1985). This is discussed below.

Table 27. Coefficients for Regression.

	Unstandardized Coefficients		Standardized Coefficients.	t	Sig	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	4.146	0.390		10.631	0.000		
NO MON	0.708	0.215	0.234	3.300	0.001	0.890	1.124
INCOME	0.155	0.070	0.168	2.209	0.028	0.779	1.284
CAREER	-0.800	0.261	-0.328	-3.062	0.003	0.390	2.562
DEPT	0.323	0.253	0.126	1.274	0.204	0.457	2.190
PAID	0.123	0.041	0.266	3.030	0.003	0.585	1.710
TSHIRT	0.356	0.293	0.087	1.213	0.227	0.874	1.144
EXPECT	-0.054	0.190	-0.019	-0.283	0.778	0.953	1.049
EDU	-0.070	0.083	-0.060	-0.838	0.403	0.867	1.154

Final Reduced Model

To improve the model, I first removed insignificant variables, EDU ($p = .40$) and EXPECT ($p = .79$). Secondly, I evaluated the remaining insignificant variables to determine if they were central to the literature. Department type (DEPT) ($p = .20$) was not statistically significant but was supported by the literature, reward equity (Gibbs 1980). Specifically, firefighters performing similar tasks with unequal compensation may experience decreased motivation. Receipt of the non-monetary extrinsic incentive (TSHIRT) was retained because it was central to the literature. The literature found that the receipt of any non-monetary extrinsic incentive can reduce an individual's intrinsic motivation (Lepper, Greene, & Nisbett 1973; Deci, Koestner, & Ryan 1999). The remaining variables, NOMONEY, INCOME, CAREER, and PAID were found to be statistically significant ($p < .05$). Therefore, two variables were dropped from the full model and six were kept to form the reduced model. The results are displayed in Table 28.

Reviewing the model summary, the reduced model is an improvement over the full model. The adjusted r-squared decreased slightly. However, it is important to evaluate the difference between the r-squared and the adjusted r-squared. In the full model, the difference was larger than in the reduced model. The reduced model closed the gap between the r-square and adjusted r-squared nearly in half (.036 vs. .001). This suggests that there were too many variables in the full model versus the reduced model (Haaland 1989). The smaller gap between the r-square and the adjusted r-squared suggests that the variables removed to form the reduced model was an improvement from the full model.

Table 28. Reduced Model Summary.

R	R Square	Adjusted R Square	Std. Error of the Estimate
.358 ^a	0.128	0.109	1.09098

The Analysis of Variance results for the reduced model are presented in Table 29. The residual or error is 322.57 while the total sum of squares is 369.92. This means that 13 percent of the variation in the intrinsic score is explained by the independent variables. This was a slight decrease from the full model. The F statistic is still significant and slightly higher than the F statistic in the previous model. Another factor to consider is the fluctuations in sample size. In the full model, the sample size or total degrees of freedom was 196. In the reduced model, the sample size or total degrees of freedom was 277. The difference was attributed to the dropped variable EXPECT. This question sought to gauge whether the firefighter expected to receive any non-monetary extrinsic incentive, if one was received. In the event that the firefighter did not receive an incentive, this question was left blank in some cases. The removal of this variable because it was neither statistically significant to intrinsic motivation nor central to the literature improved the reduced model's degrees of freedom by increasing the available sample size to analyze. Since the variable EXPECT had numerous missing cells, SPSS automatically removed them from the analysis.

Table 29. Reduced Model ANOVA for Multiple Regression.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	47.366	6	7.894	6.633	.000 ^a
Residual	322.556	271	1.190		
Total	369.922	277			

In the reduced model, the variation inflation factors (VIF) are again presented. None of the variables had a VIF greater than 2.5 suggesting no collinearity among the variables. While CAREER had a VIF of 2.5, it was kept in the model for the following reasons. Primarily, the variable CAREER measures whether the firefighter is career or volunteer. This difference is central to the literature on intrinsic motivation where different status types can have different

impacts on intrinsic motivation (Bertelli, 2005; Fiorillo, 2007; Millette & Gagne, 2008).

Therefore, when variables are central to the literature, they should be kept and multicollinearity addressed (Lewis 2010). Secondly, I ran two additional analyses by dropping both DEPT and CAREER from the model. In both models, the adjusted r-squared or the explanatory power of the model decreased slightly, .097 and .092, respectively. Therefore, I chose to keep both variables because they produced a stronger model.

The coefficients remained roughly the same signaling confidence in the coefficients for the model. The results are displayed in Table 30. For instance, one of the variables of interest from the literature, firefighter status, changed .30 from the full model. The other variable of interest from the literature, whether the firefighter received the non-monetary extrinsic incentive of interest (t-shirt), only changed .20 from the full model.

Table 30. Reduced Model Coefficients for Regression.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	4.501	0.233		19.352	0.000		
NO MON	0.474	0.156	0.202	3.034	0.003	0.729	1.372
INCOME	0.106	0.058	0.123	1.850	0.065	0.726	1.378
PAID	0.104	0.034	0.226	3.012	0.003	0.573	1.745
TSHIRT	0.123	0.190	0.045	0.644	0.520	0.659	1.517
DEPT	0.375	0.173	0.150	2.166	0.031	0.672	1.489
CAREER	-0.510	0.209	-0.220	-2.441	0.015	0.396	2.526

Second Final Reduced Model

To test the third hypothesis of whether the length of time of receipt of the non-monetary extrinsic incentive (t-shirt), a third model was developed. Because length of time of receipt of the non-monetary extrinsic incentive (t-shirt) indicates that the recipient received the t-shirt, this variable was removed and replaced with the length of time variable. The results are listed in Table 31. The adjusted r-square was similar to the reduced model.

Table 31. Third Reduced Model.

R	R Square	Adjusted R Square	Std. Error of the Estimate
.306 ^a	0.093	0.071	1.11018

The Analysis of Variance results for the third model are presented in Table 32. The residual or error is 246.84 while the total sum of squares is 281.41. This means that 12 percent of the variation in the intrinsic score is explained by the independent variables. This was also similar to the reduced model.

Table 32. Third Model ANOVA.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	26.281	5	5.256	4.265	.001 ^a
Residual	255.125	207	1.232		
Total	281.406	212			

In the third model, the independent variable of interest was the length of time from receipt of the non-monetary extrinsic incentive. The model suggests that for every six months, the intrinsic motivation of the firefighter increases .001. However, this was not found to be statistically significant. The results are listed in Table 33.

Table 33. Coefficients for Third Model.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

(Constant)	4.943	0.323		15.302	0.000
INCOME	0.084	0.068	0.091	1.240	0.216
CAREER	-0.597	0.231	-0.247	-2.587	0.010
DEPT	0.332	0.227	0.129	1.464	0.145
PAID	0.136	0.037	0.301	3.647	0.000
TSHIRT TIME	0.035	0.086	0.027	0.402	0.688

Analysis of the Model

Meier, Brudney, and Bohte (2006) provide a good explanation about statistically insignificant variables. They state that while removing variables can better explain the relationship of the remaining variables, it is not always recommended. They state that “statistically insignificant slope coefficients can be very significant substantively from a managerial standpoint. In policy analysis, knowing what is not statistically significant is often as important as knowing what is statistically significant” (398). They go on to state the importance literature plays in selecting variables for multiple regression. For intrinsic motivation, the literature attributes importance to whether the individual receives the non-monetary extrinsic incentive and the volunteer or paid status of the recipient. These variables were included along with:

- INCOME;
- NO MONEY;
- DEPT; and
- PAID.

which were found to be statistically significant to intrinsic motivation.

The resulting equation is:

SCALEIM = Constant + Level of Income (.106) - Firefighter Status (.510) + Whether the firefighter wanted to be a paid firefighter (.104) + Whether the firefighter received the non-monetary extrinsic incentive (t-shirt)(.123) + Whether the firefighter received any non-monetary extrinsic incentive (.474) + Department Type (.375).

A simplified version of the equation is:

SCALEIM = Constant (4.50) + INCOME (.106) - CAREER (.510) + PAID (.104) + TSHIRT (.123) + NOMONEY (.474) + DEPT (.375).

The regression results suggests that intrinsic motivation increases .123 [p = .52] if the firefighter does receive the non-monetary extrinsic incentive (t-shirt), all other things being equal. The relationship is contradictory to the literature. Additionally, the relationship was not statistically significant. Therefore, I cannot conclude that receipt of the non-monetary extrinsic incentive (t-shirt) affect intrinsic motivation.

Additionally, intrinsic motivation decreases .51 [p = .01] if the firefighter is a career firefighter, all other things being equal. This relationship was statistically significant at the p < .05 level. Therefore, I can conclude that volunteer firefighters have higher intrinsic motivation, all other things being equal.

Hypothesis Testing

All four hypotheses were tested using multiple regressions. The dependent variable was the intrinsic motivation score generated by the WEIMS survey (SCALEIM). The independent variables were:

- Firefighter Status (Career or Volunteer);
- Whether the firefighter wanted to be a paid firefighter;
- Level of Income;
- Whether the firefighter received a department t-shirt;
- Department Type;
- Whether the firefighter received any non-monetary extrinsic incentive; and
- Length of time from receipt of the non-monetary extrinsic incentive.

Using the variables in a reduced model, the resulting multiple regression equation was:

SCALEIM = Constant (4.50) + INCOME (.106) - CAREER (.510) + PAID (.104) + TSHIRT (.123) + NOMONEY (.474) + DEPT (.375).

Hypothesis 1:

Using CET, both career and volunteer firefighters who have received non-monetary extrinsic incentives (t-shirt) will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary extrinsic incentives.

The multiple regression coefficients for the non-monetary extrinsic incentive or TSHIRT suggest that the receipt of the t-shirt increases intrinsic motivation .123. This finding was consistent with criticisms in the literature that found that some rewards will increase intrinsic motivation (Cameron & Pierce 1994; Eisenberger, Pierce, & Cameron 1999; Cameron et. al 2001). However, Deci, Koestner, and Ryan (1999) recognized this in their meta-analytic review. They stated that rewards can have either a negative or positive impact on the individual based on the environment and situation. To test this, I calculated intrinsic motivation using the following equation. The dependent variable in this multiple regression model is the WEIMS intrinsic motivation score, SCALEIM.

For career firefighters who received a department t-shirt, made less than \$5,000 per year, did not report wanting to be a paid firefighter, reported being from a career or combination fire department, and did not report receiving any non-monetary extrinsic incentive, their intrinsic motivation score was 4.70. For career firefighters who did not receive a department t-shirt, made less than \$5,000 per year, did not report wanting to be a paid firefighter, reported being from a career or combination fire department, and did not report receiving any non-monetary extrinsic incentive, their intrinsic motivation score was 4.58. This difference was not statistically different [p = .52].

$SCALEIM = Constant (4.50) + INCOME(1)(.106) - CAREER(1)(.510) + PAID(1)(.104) + TSHIRT (0 \text{ vs } 1)(.123) + (0) NOMONEY (.474) + (1)DEPT (.375).$

For volunteer firefighters who received a department t-shirt, made less than \$5,000 per year, did not report wanting to be a paid firefighter, reported being from a career or combination fire department, and did not report receiving any non-monetary extrinsic incentive, their intrinsic

motivation score was 4.83. For volunteer firefighters who did not receive a department t-shirt, made less than \$5,000 per year, did not report wanting to be a paid firefighter, reported being from a career or combination fire department, and did not report receiving any non-monetary extrinsic incentive, their intrinsic motivation score was 4.71. This difference was not statistically different [$p = .52$].

$$\text{SCALEIM} = \text{Constant} (4.50) + \text{INCOME}(1)(.106) - \text{CAREER}(0)(.510) + \text{PAID}(1)(.104) + \text{TSHIRT} (0 \text{ vs } 1)(.123) + (0) \text{NOMONEY} (.474) + (1)\text{DEPT} (.375).$$

Table 34. Intrinsic Motivation Results.

	Yes	No
Career	4.32	4.20
Volunteer	4.83	4.71

Note: Differences were not statistically significant.

Both career and volunteer firefighters reported having a higher intrinsic motivation score after receiving the non-monetary extrinsic incentive (t-shirt). Both coefficients were not statistically significant. Therefore, I fail to reject the null hypothesis that both career and volunteer firefighters who have received non-monetary extrinsic incentives will have higher intrinsic motivation than career and volunteer firefighters who have not received non-monetary extrinsic incentives.

Hypothesis 2:

Using CET and Equity Theory, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives.

The multiple regression results in Table 34 suggest that the intrinsic motivation scores for career (4.32) and volunteer firefighters (4.83) were nearly identical after receiving the non-monetary extrinsic incentive. However, volunteer firefighters had a slightly higher intrinsic motivation score, which was supported by the literature. Papadakis, Griffin, and Frater (2004) found a difference between volunteers and non-volunteers motivations. This finding was also

consistent with Wellman's (2008) finding that volunteer and paid tour guides did not have a statistically different level of intrinsic motivation. Therefore, I reject the null hypothesis that career firefighters who received non-monetary extrinsic incentives will have lower intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives.

Hypothesis 3:

Using the theory of discounting, delays in receipt of the non-monetary extrinsic incentive will weaken the reward's impact and result in higher intrinsic motivation.

Hypothesis 3 was also tested using multiple regression. The dependent variable was the WEIMS intrinsic motivation score. The independent variable of interest was the length of time from receipt of the non-monetary extrinsic incentive. Analysis revealed that delays in receipt of the non-monetary extrinsic incentive was not statistically insignificant [$p = .688$]. This finding was not supported by the literature that found that monetary rewards have a significant discounting effect (Green and Meyerson 1996). Instead, this study's finding was more consistent with Hupp et al's (2002) finding, in their study of children with ADHD, that delayed rewards alone do not increase sportsmanlike behavior.

Some of this may be explained by Keh and Lee's (2006) study on delayed rewards. While they were studying consumer satisfaction, they found that satisfied individuals prefer delayed rewards. Since the intrinsic motivation level to do the job was assessed and not the overall satisfaction level with the job, it may have been difficult to measure a delayed reward impact. Therefore, I fail to reject the null hypothesis that delays in receipt of the non-monetary extrinsic incentive (t-shirt) will strengthen the reward's impact and result in lower intrinsic motivation.

Hypothesis 4:

Using Equity Theory, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

To test hypothesis 4, I also used multiple regression. The equation is listed below.

$$\text{SCALEIM} = \text{Constant (4.50)} + \text{INCOME(1)(.106)} - \text{CAREER(0)(.510)} + \text{PAID(1)(.104)} + \text{TSHIRT (1)(.123)} + (0) \text{NOMONEY (.474)} + (0 \text{ vs } 1)\text{DEPT (.375)}.$$

The independent variable of interest here is the department status, DEPT. The results suggest that volunteers in combination departments have a .375 higher intrinsic motivation score. This coefficient was statistically significant [$p = .031$]. While the finding was statistically significant, it was contrary to Adams' (1965) theory that individuals will compare their rewards with others in similar roles. Using Adams' (1965) theory, volunteer firefighters should have experienced lower intrinsic motivation when compared to paid firefighters receiving a salary for similar tasks. This finding was also supported by Cowherd and Levine's (1992) finding that egalitarian pay systems lead to satisfaction and product equality and Greenberg's (1988) experiment that found unequal performance at unequal "reward" levels. Therefore, I reject the null hypothesis that volunteer firefighters in all volunteer fire departments will have lower intrinsic motivation than volunteer firefighters in combination departments.

Summary

Chapter IV discussed the research design including data collection, methods used to sample the population, and the administration of the survey. It also discussed the demographic characteristics of the surveyed population along with reliability analysis of the WEIMS survey. Finally, the Multiple Regression results along with the tests to satisfy the associated assumptions were presented and the four hypotheses were tested. Reliability analysis was established by Cronbach's alpha and validity was established through a review of the literature. The four

hypotheses were tested using Multiple Regression. Assumptions for Multiple Regression were satisfied prior to data analysis.

Multiple Regression suggested that career firefighters who did receive the non-monetary incentive (t-shirt) had lower intrinsic motivation than volunteer firefighters who received the non-monetary incentive. This difference was not statistically significant. The pattern was similar for career firefighters who did not receive the non-monetary incentive versus volunteer firefighters who did not receive the non-monetary incentive. This difference was also not statistically significant.

Multiple Regression suggested that the delays in receipt of the non-monetary extrinsic incentive (t-shirt) did not have a statistically significant [$p = .688$] impact on intrinsic motivation. Finally, multiple regression also suggested that volunteer firefighters from combination fire departments had higher intrinsic motivation than volunteer firefighters from volunteer-only fire departments. However, this difference was not statistically significant.

CHAPTER V: SUMMARY – CONCLUSIONS AND RECOMMENDATIONS

Chapter V is divided into six different sections: summary of the study, discussion of general findings, limitations of the data, policy recommendations, implications for future research, and the conclusion.

Summary of the Study

The main focus of this study was to evaluate the impact non-monetary extrinsic incentives in the form of a department t-shirt has on intrinsic motivation of Virginia career and volunteer firefighters. Intrinsic motivation was measured using Tremblay et al's (2009) Work Extrinsic and Intrinsic Motivation Scale. The WEIMS survey allows for measurement of multiple types of extrinsic regulation and intrinsic motivation developed by Deci and Ryan's (1985) Self-Determination Theory, the parent theory to this study, Cognitive Evaluation Theory.

Virginia career and volunteer firefighters were compared to each other to determine if the receipt of the non-monetary extrinsic incentive (t-shirt) had a differential impact on their intrinsic motivation. Secondly, I evaluated the impact delays in receipt of the incentive would have on intrinsic motivation. Finally, I compared the intrinsic motivation scores of volunteer firefighters from two different types of departments (combination versus volunteer-only).

Four hypotheses were developed to answer the research question:

Do non-monetary extrinsic incentives reduce the intrinsic motivation of career and volunteer firefighters in Virginia?

The first hypothesis suggested non-monetary extrinsic incentives (t-shirt) would reduce the intrinsic motivation of both career and volunteer firefighters relative to those who do not receive the same incentive. The second hypothesis suggested the receipt of the non-monetary extrinsic incentive would have a larger impact on volunteer firefighters than on career

firefighters. The third hypothesis suggested delays in the receipt of the non-monetary extrinsic incentive would reduce the impact on intrinsic motivation. The final hypothesis suggested that non-monetary extrinsic incentives would have a greater impact on volunteer firefighters from combination departments than in volunteer-only departments.

The sample population was career and volunteer firefighters in Virginia. The firefighters represented three different department types: career-only, volunteer-only, and combination departments. As of June 2010, there were 598 primary fire departments active fire departments in the Commonwealth of Virginia. Using stratified random sampling to reduce sampling error, I selected 18 fire departments based on population served and receipt or no receipt of non-monetary extrinsic incentives (Babbie 2010). To ensure each accurate representation, I stratified fire departments by area-served and department type (volunteer, career, and combination) into five groups and one group with no extrinsic non-monetary incentive use. I chose 3 fire departments from each group for a total of 18 fire departments.

To collect data, I distributed an e-mail survey to the selected fire departments' career and volunteer firefighters. The survey was based on Tremblay et al.'s (2009) WEIMS survey with added demographic questions. The WEIMS survey developed six separate scales to test extrinsic and intrinsic motivation: intrinsic motivation scale, integrated regulation scale, identified regulation scale, introjected regulation scale, external regulation scale, and amotivation scale.

The 18 selected fire departments had 1,205 career and volunteer firefighters. Volunteer fire departments had 408 firefighters, combination fire departments had 344 firefighters, and career fire departments had 453 firefighters. A total of 312 surveys were returned and each fire department was represented. 56 firefighters responded from career-only fire departments (18 percent), 155 combination fire departments (49.8 percent), and 100 from volunteer-only fire

departments (32.2 percent). 167 were career firefighters (53.7 percent) and 144 were volunteer firefighters (46.3 percent). The sampled firefighters reported having either some college (35.2 percent) or an associate's degree (28.7 percent) and earning between \$20,000 - \$39,999 (27.4 percent) and \$40,000 - \$59,999 (25.1 percent).

The sampled firefighters scored the highest on the intrinsic motivation scale (5.64) followed by integrated regulation (5.58), introjected regulation (4.85), external regulation (4.57), identified regulation (4.12), and amotivation (1.95). Reliability and validity was established by Cronbach's alpha and review of the literature. The literature supported the use of the WEIMS survey to measure intrinsic motivation. Andrew, Pederson, and McEvoy (2011) stated that values at or above .70 are desirable. Each of the WEIMS scales score at or above .70 except amotivation, which scored .66 consistent with Tremblay et al's (2009) tests of reliability. Finally, I evaluated the correlation between the WEIMS scales and the other study variables to evaluate the relationship between the independent variables and the dependent variable.

All four hypotheses were tested using multiple regression. Assumptions of multiple regression were tested including normal distribution, homogeneity of variance, linearity, and multicollinearity (Larson-Hall 2010). All assumptions were satisfied.

Discussion of the General Findings

The four hypotheses were developed based on the literature and previous research that found a significant impact on intrinsic motivation by monetary and non-monetary extrinsic rewards. Specifically, I tested whether non-monetary extrinsic incentives had an impact on a highly intrinsically motivated population, firefighters (Lepper, Greene, & Nisbett 1973; Deci, Koestner, & Ryan 1999).

Hypothesis 1:

Using CET, both career and volunteer firefighters who have received non-monetary extrinsic incentives will have lower intrinsic motivation than career and volunteer firefighters who have not received non-monetary intrinsic incentives.

Using Multiple Regression, receipt of the non-monetary extrinsic incentive (t-shirt) [$p = .52$] was not statistically significant, while firefighter status [$p = .01$] was statistically significant. The literature found that non-monetary extrinsic incentives can reduce intrinsic motivation (Deci 1971; Lepper, Greene, & Nisbett 1973; Deci & Ryan 1985; Deci, Koestner, & Ryan 1999; Frey & Jegen 2001; Medic, Mack, Wilson, & Starkes 2007). In this study, this theory was not supported. Instead it was more consistent with the literature that found that some rewards can increase intrinsic motivation (Cameron & Pierce 1994; Eisenberger, Pierce, & Cameron 1999; Cameron et al. 2001). Career firefighters who received the non-monetary extrinsic incentive (t-shirt) had higher intrinsic motivation score (4.70) than career firefighters who did not receive the t-shirt (4.58). Volunteer firefighters who received the t-shirt had a higher intrinsic motivation score (4.83) than those that did not (4.71).

One reason the intrinsic motivation scores may have been different is explained by the type of rewards used. The non-monetary extrinsic incentive used in this study, department t-shirt, was not contingent on task or performance. Instead, these rewards could be considered task-non-contingent or engagement-contingent. Ryan et al. (1983) define rewards as task-non-contingent when the rewards are given for “participating in an experimental session, independent of what they do in that session” (736). Deci, Koestner, and Ryan (1999) suggest that task-non-contingent rewards do not decrease intrinsic motivation. The department t-shirts appeared to be more task-non-contingent than engagement contingent.

Hypothesis 2:

Using CET and Equity Theory, career firefighters who received non-monetary extrinsic incentives will have higher intrinsic motivation than volunteer firefighters who have received the same non-monetary extrinsic incentives

Equity theory suggests that if two groups are performing the same task, yet unequally compensated, the lesser compensated group will consider their rewards inequitable and may experience reduced intrinsic motivation (Liccione 2007). In the case of career and volunteer firefighters, the discrepancy is in the payment received for services. There are little performance-related differences between the two populations. Therefore, any additional reward such as a department t-shirt will have a considerable impact on intrinsic motivation. Gibbs (1980) states, individuals will “compare their input/output ratio against others ‘input/output ratio who are engaged in a similar task or job” (10-11). If paid firefighters are receiving the same incentives as volunteer firefighters, equity theory suggests that the volunteer firefighters will experience a decrease in performance and motivation. This finding was consistent in the literature (Greenberg 1988; Cowherd & Levine 1992).

This theory was not confirmed in my study. Career firefighters who received the non-monetary extrinsic incentive (t-shirt) reported lower intrinsic motivation scores than volunteer firefighters who received the same reward. This difference was supported in the literature. Papadakis, Griffin, and Frater (2004) found a difference between volunteers and non-volunteers motivations. However, the difference was marginal; I could not conclude that reward equity had an impact on intrinsic motivation. This finding was consistent with Wellman’s (2008) finding that volunteer and paid tour guides also did not have a statistically different level of intrinsic motivation.

Hypothesis 3:

Using the theory of discounting, delays in receipt of the non-monetary extrinsic incentive will result in higher intrinsic motivation.

Many of the studies on Cognitive Evaluation Theory immediately rewarded the participant after task completion (Deci 1971,1972; Lepper, Greene, & Nisbett 1973; Jordan 1986). Therefore, the literature was initially sparse on the impact of time of receipt of the reward on intrinsic motivation until Green and Meyerson (1996) found that “the subjective value of a later reward decreases as the delay to its receipt increases” (496). They referred to this phenomenon as discounting. Specifically, if a reward is delayed, it constitutes weaker reinforcers for learning (Gregorios-Pippas, Tobler, & Schultz 2009). However, for non-monetary extrinsic incentives (t-shirt), I did not find a statistically significant [$p = .688$] impact of elapsed time of reward receipt on intrinsic motivation.

Instead, this study’s finding was more consistent with Hupp et al’s (2002) finding, in their study of children with ADHD, that delayed rewards alone do not increase sportsmanlike behavior. Some of this may be explained by Keh and Lee’s (2006) study on delayed rewards. While they were studying consumer satisfaction, they found that satisfied individuals prefer delayed rewards. Since the intrinsic motivation level to do the job was assessed and not the overall satisfaction level with the job, it may have been difficult to measure a delayed reward impact.

Another potential explanation may also be explained by the reward contingency of the department t-shirt. Participants may have viewed the department t-shirt as a task-non-contingent reward and therefore would experience no impact on intrinsic motivation (Deci, Koestner, & Ryan 1999). A secondary explanation is that the theory of discounting applies mainly to monetary awards (Camerer & Loewenstein 2003). Studies on this effect focus on the effect of delayed monetary rewards have on the individual. In the case of non-monetary extrinsic incentives, the discounting effect may not have been as prevalent.

Hypothesis 4:

Using Equity Theory, volunteer firefighters in all volunteer fire departments will have higher intrinsic motivation than volunteer firefighters in combination departments.

As mentioned above, equity theory suggests that if an individual perceives he or she is being inequitably rewarded for a task, it will reduce their intrinsic motivation as a result. Instead of focusing on the receipt of reward, I evaluated general intrinsic motivation levels for the volunteer firefighters in my study from different departments. Being from a combination department increased intrinsic motivation .375. While the finding was statistically significant, it was contrary to Adams' (1965) theory that individuals will compare their rewards with others in similar roles and evaluate their motivation accordingly. Cowherd and Levine (1992) and Greenberg (1988) also supported the results of equity theory.

A potential explanation is that the volunteer firefighters did not view themselves and inequitably rewarded. The assumption of this study was that pay would be viewed as an unequal reward for career firefighters versus volunteer firefighters. However, volunteer firefighters may value other forms of reward and find that they are distributed equally. Akerlof and Yellen (1988) state "the assumption that low-paid [or non-paid] workers base their notions of fairness on the pay received by more highly skilled workers is undoubtedly a substantial simplification of how individuals realistically form conceptions of equity" (48). For volunteer firefighters, they may value other forms of remunerations such as intrinsic rewards or verbal rewards instead.

Limitations of the Data

The first limitation of my study is the response rate. While a response rate of 25.8 percent is consistent with the literature on online surveys (Kwak & Radler 2002; Marsden & Wright 2010; Monroe & Adams 2012), it is still lower than ideal for generalizing any findings (Hinkin & Holtom 2009). Some of this could be attributed to technological limitations

particularly among volunteer fire departments. This was limitation was partially mitigated with repeated follow-ups to the sampled fire departments to encourage participation. I also used random stratified sampling to ensure a representative sample.

The second limitation of this study was the use of the non-monetary extrinsic incentive in a post-test only research design. The initial limitation of this design is that there is no way to be certain that the non-monetary incentive reduced intrinsic motivation. To guard against this limitation, I randomly selected fire departments that stated that they did not use incentives. This allowed for a comparison group without incentives to compare against.

Using a self-report instrument in the survey may have also limited the study. Social desirability bias refers to the participant's desire to provide responses that are socially acceptable or conform to social norms (Sue & Ritter 2011). In this study, that may have manifested in the firefighter's general displeasure with their treatment or management. To guard against this limitation, the survey was not conducted in person. The online survey allows participants to answer more honestly than in-person interviews. I also informed the participants of the confidentiality and anonymity of the survey along with the option to not finish the survey at any time.

Policy Recommendations

The recommendations provided below follow one central, but alarming theme. Managers must become more engaged in employee motivation, particularly volunteer managers. The literature is full of examples that discuss the lack of manager commitment (Gennard & Judge 2005), lack of strategic involvement (Cummins & Venard 2007), or lack of support in employee learning and engagement (Phillips & Phillips 2009). These deficiencies must first be addressed to maintain and improve employee motivation and prevent turnover. The following

recommendations assume managerial support by becoming more engaged in motivation.

Secondly, while this study focused on firefighters, the following recommendations may also be considered for implementation in other organizations as well.

The first recommendation is to evaluate the use of the department t-shirt as a recruiting and retention tool for volunteers. This study found that the department t-shirt has a positive impact on intrinsic motivation for volunteer firefighters. Specifically, volunteer firefighters that did receive the department t-shirt had a higher intrinsic motivation score than those that did not (Cameron & Pierce 1994; Eisenberger, Pierce, & Cameron 1999; Cameron et al. 2001). While this relationship was not statistically significant, the fact that department t-shirts did not adversely impact intrinsic motivation negatively, particularly for volunteer firefighters, should inform managers in cautiously increasing the use of department t-shirts.

A second recommendation for managers, both firefighter and non-firefighter, is to review the use of performance and task-contingent rewards. The literature shows that performance and task-contingent rewards will decrease intrinsic motivation of participants (Deci, Koestner, & Ryan 1999). Therefore, careful attention should be paid in continuing the use of performance and task-contingent rewards. These rewards include rewarding individuals for specific projects such as quota-based rewards (most calls made) or project-based rewards (securing a specific contract). Managers of all organizations should instead review the use of rewards for task-non-contingent projects (Deci 1972; Ryan 1983). In this study, rewarding an individual for becoming a volunteer or career firefighter with a t-shirt did not have an impact on their intrinsic motivation. If a reward was provided for the number of fires they extinguished or responses they made, there may have been a greater risk for damaging intrinsic motivation. Therefore, managers should, if

not eliminate, seriously review end of the year rewards based on the completion of a specific task and instead provide rewards for overall performance.

Another recommendation would be to consider an increase in non-monetary incentives, for both firefighter and non-firefighters, for task non-contingent situations. If used properly, in correct circumstances that do not depend solely on performance, non-monetary incentives can improve or at the very least, maintain intrinsic motivation. This study showed a small improvement, while not statistically significant, in intrinsic motivation for firefighters that did receive a department t-shirt. The benefits to this recommendation are twofold. Monetary incentives have a large body of support for decreasing intrinsic motivation by controlling the participant (Deci 191; Deci 1972; Jordan 1986; Deci, Koestner, & Ryan 1999). Secondly, monetary incentives are becoming less viable with severe financial constraints (Houston 2009). Quite simply, they are expensive. Therefore, organizations should find some support in this study of turning to non-monetary incentives, in the correct circumstances, to reward employees.

Managers must also become more involved in the reward distribution and administration. Aside from increasing non-monetary incentives, once the circumstances of the rewards have been established, managers should use creative methods to reward employees. This study found that a t-shirt had the ability to maintain intrinsic motivation for its recipients. If a t-shirt can have this impact, managers should also explore the use of other rewards such as university pens (Selart, Nordstrom, Kuvaas, & Takemura 2008), course credits (Gibbs 1980), and employee of the month awards (Weatherly 2002) in the correct circumstances. While these rewards cannot be provided in similar circumstances as this study, at the beginning, managers can explore general situations where they would be appropriate. For example, instead of providing university pens in response to a particular task with scored expectations (Selart, Nordstrom, Kuvaas, & Takemura

2008), managers may benefit from providing pens at sporadic intervals during an employee's tenure and not contingent on performance. They may find that this reward administration will not impact intrinsic motivation. Secondly, managers should become more creative in the rewards they do ultimately choose. Managers should not be constricted to the traditional forms of non-monetary incentives of plaques, trophies, and certificates. Instead, they should explore more cutting-edge creative incentives such as university pens, online currency, or pins.

One suggestion to achieve more creative non-monetary incentivizing systems is for managers of organizations to review the value employees and volunteers place on rewards. While giving managers a better understanding of what their employees and volunteers value, it will also ensure that rewards are equitably distributed. This study found that monetary payments may not have had an inequitable impact on volunteers as suggested by the literature (Adams 1965; Greenberg 1988; Cowherd & Levine 1992). Instead of decreasing performance and intrinsic motivation for volunteers, department t-shirts, instead, increased intrinsic motivation. To better capture this, managers should understand, either through conversations or open forums, what is important to both paid and volunteer staff members to ensure that both populations are equitably rewarded.

Managers must also dictate the expectations of their staff. The literature found that expected rewards will decrease intrinsic motivation (Deci 1972; Deci, Koestner, & Ryan 1999). This is a potential downside to traditional end-of-the-year banquets. These settings provide returning employees and volunteers an expectation for certain rewards and may even motivate their work as a result. For instance, if an employee of the year reward is provided, employees may find themselves working for that award and making decisions accordingly (Deci, Koestner, & Ryan 2001). A potential solution to this would be to change rewards annually both in type

and time. Instead of holding end-of-the-year reward banquets, organizations could hold mid-year banquets. While this would be more demanding on organizational leadership, it prevents employees from developing expectations.

Lastly, organizations and managers must address the issue of employee and volunteer burnout and turnover. The data provided by the National Fire Protection Association and the Corporation for National and Community Service and the Bureau of Labor Statistics, showed a marginally declining rate of volunteers. While the rate of decline is marginal and in some cases, inconsistent, managers of specific organizations must take inventory of their staff's level of satisfaction and motivation and in the event they leave, the reasons for departure.

First, the WEIMS survey is an extremely powerful tool because it allows for understanding of multiple types of motivations. Managers should consider using the WEIMS survey often and at different points of the employee's tenure. This "rolling" stock of the employee's motivation will inform managers of how he or she is currently motivated. Combined with constant and open communication through forums or conversation, managers should be able to accurately understand the employee at varying times of motivational development, positive and negative.

Secondly, in the event of departure, managers should have open and honest discussion opportunities for members. Some organizations do this in what they call "de-brief," where the employee meets with a third party in human resources (Mathis & Jackson 2010). The resulting product is a summary report provided to organizational leadership. However, instead of dismissing these as "gripe" sessions, managers should review them honestly and openly to prevent future turnover and burnout.

Implications for Future Research

This study provided important research direction for the study of incentives and the study of firefighters. The findings in this study may also inform projects about other fields such as senior citizen volunteer management and after-school tutors. All of the following research directions should focus on one key element: field studies. While there is significant value in laboratory experiments (Deci 1971, 1972), the concept of intrinsic motivation should truly be studied in the field (Jordan 1986). These environments allow for a true implementation and evaluation of Cognitive Evaluation Theory by allowing environmental variables to impact the individual along with the specific reward condition. These studies would also better inform management practices because they provide real world understanding and application to laboratory-like findings.

To begin, more future research should be focused on evaluating the impact non-monetary incentives have on intrinsic motivation of all populations building on important research started by Lepper, Greene, and Nisbett (1973). While this study did not find a statistically significant impact of department t-shirts on Virginia firefighters, the literature identifies an important relationship between non-monetary incentives such as reward certificates and intrinsic motivation. Therefore, significant research should be focused on the relationship between intrinsic motivation and non-monetary incentives particularly in constraining economic conditions.

The absent impact of non-monetary incentives in this study suggests future research also be conducted in reward contingencies. The literature (Deci 1972; Deci, Koestner, & Ryan 1999; 2001 Cameron et al. 2001) found significant impacts of performance-contingent rewards on intrinsic motivation. The possible task non-contingency of the department t-shirts provided at the beginning of service in this study provided additional evidence that rewards not contingent

on performance may not harm intrinsic motivation. Therefore, researchers should pay particular attention to reward contingent on performance. Additionally, reward administration programs that focus on overall performance throughout a particular time period, not task-specific, should be evaluated as well.

More research should also be conducted on the differing saliency of the non-monetary rewards as well. In this study, department t-shirts did not have a particularly strong effect on intrinsic motivation. Receipt of the department t-shirt did not have a statistically significant relationship with intrinsic motivation. Additionally, the difference was too marginal for real conclusions. However, plaques, trophies, and rewards may have a stronger effect than department t-shirts particularly if they are contingent on task and performance. These rewards may have greater saliency to the individual and may ultimately impact intrinsic motivation more.

Additionally, researchers should pay particular close attention when choosing populations. While research on all groups is important, research should also choose groups with demonstrated field interest such as firefighters. While much of the literature focused on task interest such as puzzles (Deci, 1971; 1972), it is important that researchers develop understanding of the phenomenon in regards to highly motivated functioning populations such as student athletes, campaign volunteers, and internship programs. These populations are at the greatest risk of decreased intrinsic motivation as a result of extrinsic incentives (Deci, Koestner, & Ryan 1999; Cameron et al. 2001). Developing field knowledge for highly intrinsically motivated populations provides understanding for theory and better management of these populations in practice.

Another area of future research that would prove particularly useful as a result of this study is the concept of organizational culture and development using the work of Schein (2004).

While much of motivation and behavioral response to rewards focused on the individual, Schein focused on the work of social groups and its effect on the individual. Specifically, his work concentrated on how groups can impact the behavior and motivation of workers. Since firefighters exhibit high levels of intrinsic motivation, it would be important for future research to focus on how these levels are impacted at and by the group level. This study suggested that firefighters, individually, have extremely high levels of intrinsic motivation. However, there was no measure of how group motivation levels impacted the individual. The literature discusses how some individuals seek to become firefighters to avoid social alienation. However, the literature does not discuss how the inclusion into the group will impact the initial and sustained levels of intrinsic motivation. As an individual enters into a new group, he or she may adopt their motivation levels similar to the way individuals adopt group norms (Schein 2004). This organizational adoption could be applied to the areas of motivation as well. If an organization has high levels of intrinsic motivation as a group, then an entering individual may find that to survive, avoid alienation, and become a part of the group, he or she must also develop a higher level of intrinsic motivation. The same could be said for organizations with a high focus on extrinsic motivation. The previously intrinsically motivated individual may soon find his or her motivation change to a more external or extrinsic one. Future research should seek to evaluate the impact organizational cultures have on new employees or volunteers.

Additionally, the concept of alienation is an important one to review. Using self-determination theory, alienation could be considered as introjected regulation, which would be classified as a part of the extrinsic scale. Because alienation is an external regulation or “reward,” future research should evaluate the impact these rewards can have on the intrinsic motivation of the individual. According to the literature, firefighters exhibit a high level of

fraternity and brotherhood for its men and women. Future research should be devoted to understanding whether the individual views the reward of assimilation as affirming autonomy or controlling.

The literature also provides evidence of the decreasing effect of competition on intrinsic motivation (Deci, Koestner, & Ryan 1999). However, there is little evidence on the impact of collaborative relationships or environments on the intrinsic motivation levels of the individual. Related to Schein's organizational culture, future research should evaluate how environments identified as collaborative enhance or decrease the motivation levels of its members. Research should also be dedicated to understanding the motivation levels of the individuals in these groups. While the literature may suggest that collaborative organizations would foster intrinsic motivation while competitive environments would produce more extrinsic motivation levels, research should evaluate if the individuals in these respective groups view their environment accordingly.

For firefighters, more research should be conducted generally. Surprisingly, this extremely important and interesting occupation lacked the volume of research that should be expected with such a population. A few themes for future firefighter research that originated from the literature and this research project include:

- An evaluation of the decreasing volunteer firefighters. The data provided showed a slow and steady decrease of volunteer firefighters (NFPA; D'Intino 2006). Research should be conducted to understand the source of this decline and if there are additional management practices that could curb this trend.
- Firefighter intrinsic motivation. Despite the decreasing trend of volunteer firefighters, both career and volunteer firefighters had increasingly high scores of intrinsic motivation

in this study. Additional research should be paid to understanding the factors that contribute to the overall job satisfaction for this population.

- Firefighter resources. Lastly, research should be conducted to understanding the impact a lack of State funds have on these departments from providing the adequate technology resources to basic gear management and upkeep.

These are only a few of the research directions that resulted from this study. But more importantly, researchers should take aggressive action in including this population as much as possible when conducting any type of field research for any area of study.

Another future research direction of interest, one that firefighters provided, is to evaluate the relationship between paid and volunteer organizations where the employees perform the same function. This unique setting allows for understanding the concept of reward equity (Adams 1965) and also motivation. In this study, there was a small difference in the intrinsic satisfaction between career and volunteer firefighters in response to a department t-shirt. However, other populations could respond differently to the same reward or different ones. Examples of these populations include student athletes, campaign volunteers, and internship programs. Each of these populations represents highly motivated populations where there is paid and volunteer labor. Future research could replicate this project to those populations.

While this study did not find a statistically significant relationship between delays in rewards and intrinsic motivation, researchers should still consider the impact reward delays may have. Economic and psychology literature support the negative impact delays in reward may have (Green & Meyerson 1996) on the individual. However, other studies have found that individual satisfaction impacts the effectiveness of delayed rewards (Keh & Lee 2006).

Therefore, researchers should evaluate the impact delayed impacts have on differing populations (satisfied and unsatisfied) along with varying reward types (monetary and non-monetary).

Lastly, future research on volunteers should pay particular close attention to volunteer retention and not entered volunteer rates. Much of the volunteer literature (Wilson 2000) focuses on the factors and characteristics that motivate individuals to volunteer. However, little attention has been paid to second-time volunteers and programs that emphasize volunteer retention. Studies, such as this one, that focuses on different factors (intrinsic motivation) that may affect volunteers' desire to return are important to the field and more importantly, to managers in gaining understanding of volunteer retention patterns. Therefore, researchers should develop more findings regarding how to keep volunteers instead of why people volunteer.

Conclusions

Managers and academics are still searching for effective theories and policies that would help manage motivation, in particular, intrinsic motivation. Intrinsic motivation is essential for some of the more desirable traits of employees such as volunteering for additional tasks and staying later to finish assignments. Traditional methods for managing and maintaining this type of motivation included bonuses, raises, and other rewards such as certificates of appreciation. However, as financial constraints became more prevalent, organizations have had to turn to more non-monetary means of rewarding employees. This is especially true for public and non-profit organizations that rely on volunteer labor to perform important daily tasks. An example of this is in firefighting, which are overwhelmingly staffed by volunteer firefighters. This study evaluated whether the non-monetary extrinsic incentives in the form of the department t-shirt impacted intrinsic motivation for both career and volunteer firefighters.

Evaluation of intrinsic motivation was measured by the Work Extrinsic and Intrinsic Motivation Scale (WEIMS). The purpose of this study was to evaluate whether the receipt of the department t-shirt reduced intrinsic motivation for career and volunteer firefighters. Specifically, I sought to evaluate the difference in intrinsic motivation of career and volunteer firefighters both jointly and separately. Secondly, I evaluated the impact delays in receipt of the non-monetary extrinsic incentive (t-shirt) have on intrinsic motivation. Finally, I evaluated whether volunteers felt they were inequitably rewarded for their tasks.

Results revealed that the department t-shirt did not decrease intrinsic motivation. This difference was true for both career and volunteer firefighters where the receipt of the department t-shirt resulted in a higher intrinsic motivation score than for those who did not receive the t-shirt. Some of this could be explained by how the department t-shirt was perceived as a task-non-contingent reward.

Results also revealed that the delayed receipt of the non-monetary extrinsic incentive had a statistically insignificant effect on intrinsic motivation. Lastly, results revealed that equity theory did not have an impact on intrinsic motivation for volunteer firefighters only. Volunteer firefighters in combination fire departments had higher intrinsic motivation than volunteer firefighters in volunteer-only departments.

The results in my study suggest that the use of the non-monetary extrinsic incentive (t-shirt) does not have an impact on intrinsic motivation of career and volunteer firefighters. For firefighters that did receive the department t-shirt, intrinsic motivation levels were generally high. My study contributes to the field of understanding in that some incentives may not reduce intrinsic motivation for certain populations.

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Appendix A

V 1.1 09/28/12

Why Do You Do You Work?

Page 1

Using the drop down box, please indicate to what extent each of the following items corresponds to the reasons why you are presently a firefighter.

1 - Does not correspond at all

4 - Corresponds moderately

7 - Corresponds exactly

1. Because I want to be a paid firefighter.
2. Because this is the type of work I chose to do attain a certain lifestyle.
3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.
4. Because I derive much pleasure from learning new things.
5. Because it has become a fundamental part of who I am.
6. Because I want to succeed at this job, if not I would be very ashamed of myself.
7. Because I chose this type of work to attain my career goals.
8. For the satisfaction I experience from taking on interesting challenges.
9. Because it is part of the way in which I have chosen to live my life.
10. Because I want to be very good at this work, otherwise I would be very disappointed.
11. I don't know why, we are provided with unrealistic working conditions.
12. Because I want to be a "winner" in life.
13. Because it is the type of work I have chosen to attain certain important objectives.
14. For the satisfaction I experience when I am successful at doing difficult tasks.
15. I don't know, too much is expected of us.
16. Because this job is a part of my life.

Please only complete the following three (3) questions if you are a paid firefighter. Volunteers, please move to page 2.

17. Because this type of work provides me with security.
18. For the income it provides me.
19. Because it allows me to earn money.

20. Did you receive a t-shirt from the fire department?

21. If you did receive a t-shirt, please indicate when.

22. Did you expect to receive a t-shirt from the fire department?

23. Please indicate your income range.

24. Please indicate your ethnic background.

25. Please indicate your highest level of education.

Submit by Email

Dear Firefighter,

Thank you for taking the time to complete this survey. Your feedback is important in understanding firefighter satisfaction.

This survey should only take about 5 to 10 minutes of your time. Your answers will be completely anonymous and by filling out the survey you will provide valuable information on the job satisfaction of firefighters.

Purpose of the Study:

This is a study being conducted by PhD Candidate John Kim, student at Virginia Commonwealth University. The purpose of this study is to evaluate the job satisfaction of Virginia Firefighters.

What will be done:

You will complete a survey, which will take 5 to 10 minutes to complete. The survey includes questions about why you engage in firefighting. I will also ask questions about your firefighter status (paid or volunteer) and whether you received a department t-shirt or hat in the last year.

After you complete the questionnaire, I will examine the level of satisfaction of Virginia Firefighters.

Benefits of this Study:

You will be contributing to knowledge job satisfaction of Virginia Firefighters. This study will assist in understanding job satisfaction techniques currently employed by Virginia Fire Departments.

Risks or discomforts:

No risks or discomforts are anticipated from taking part in this study. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.

Confidentiality:

Your responses will be kept completely confidential. I will NOT know your IP address when you respond to the Internet survey. Each survey will be uniquely coded without connection to the participant. I will be the only individual seeing the survey responses.

If you have any questions about the survey, please feel free to contact me at kimjh9@vcu.edu.

At the end of the survey, there is a submit button that will process your survey.

Thank you again for your time.

Sincerely,

John

Appendix B

VCU Memo

Virginia Commonwealth University

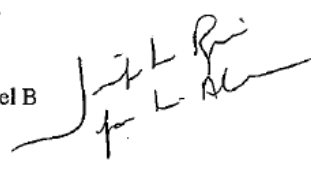
Office of Research
Office of Research Subjects Protection
BioTechnology Research Park
800 East Leigh Street, Suite 3000
P.O. Box 980568
Richmond, Virginia 23298-0568
(804) 828-0868
Fax: (804) 827-1448

DATE: November 5, 2012

TO: Blue E. Wooldridge, DPA
L. Douglas Wilder School of Government and Public Affairs
Box 842028

FROM: Lisa M. Abrams, PhD
Chairperson, VCU IRB Panel B
Box 980568

RE: **VCU IRB #: HM14770**
Title: Evaluation of Cognitive Evaluation Theory to Volunteer Motivation



On October 30, 2012, the following research study *qualified for exemption* according to 45 CFR 46.101(b) Category 2. This determination includes the following items reviewed by this Panel:

RESEARCH APPLICATION/PROPOSAL: None

PROTOCOL (Research Plan): Evaluation of Cognitive Evaluation Theory to Volunteer Motivation, received 10/15/12, version 1.1, dated 9/28/12

- VCU IRB Study Personnel Roster, received 10/15/12, version 1.1, dated 9/28/12
- Survey, received 10/15/12, version 1.1, dated 9/28/12

CONSENT/ASSENT (attached):

- Informed Consent Form, received 10/15/12, version 1.1, dated 9/28/12, 1 page

ADDITIONAL DOCUMENTS (attached):

- Advertisement/Subject Recruitment Material (Introductory Email), received 10/15/12, version 1.1, dated 9/28/12

The Primary Reviewer assigned to your research study is Salvatore Lupica, JD. If you have any questions, please contact Mr. Lupica at salvatorelupica@comcast.net; or you may contact Jennifer Rice, IRB Coordinator, VCU Office of Research Subjects Protection, at irbpanelb@vcu.edu and 828-3992.

Attachment – Conditions of Approval (PLEASE NOTE RECENT CHANGES TO CONDITION #3)

Conditions of Approval:

In order to comply with federal regulations, industry standards, and the terms of this approval, the investigator must *(as applicable)*:

1. Conduct the research as described in and required by the Protocol.
2. Provide non-English speaking patients with a translation of the approved Consent Form in the research participant's first language. The Panel must approve the translation.
3. The following changes to the protocol **must be** submitted to the IRB panel for review and approval before the changes are instituted. Changes that do not meet these criteria do not have to be submitted to the IRB. If there is a question about whether a change must be sent to the IRB please call the ORSP for clarification.

THESE CHANGES MUST BE SUBMITTED:

- a) Change in principal investigator
 - b) Any change that increases the risk to the participant
 - c) Addition of children, wards of the state, or prisoner participants
 - d) Changes in survey or interview questions (addition or deletion of questions or wording) that change the level of risk or adds questions related to sexual activity, abuse, past or present illicit drug use, illegal activities, questions reasonably expected to provoke psychological anxiety, or would make participants vulnerable, or subject them to financial, psychological or medical risk
 - e) Changes that change the category of exemption or add additional exemption categories
 - f) Changes that add procedures or activities not covered by the exempt category(ies) under which the study was originally determined to be exempt
 - g) Changes requiring additional participant identifiers that could impact the exempt category or determination
 - h) Change in inclusion dates for retrospective record reviews if the new date is after the original approval date for the exempt study. (ex: The approval date for the study is 9/24/10 and the original inclusion dates were 01/01/08-06/30/10. This could be changed to 01/01/06 to 09/24/10 but not to end on 09/25/10 or later.)
 - i) Addition of a new recruitment strategy
 - j) Increase in the planned compensation to participants
4. Monitor all problems (anticipated and unanticipated) associated with risk to research participants or others.
 5. Report Unanticipated Problems (UPs), following the VCU IRB requirements and timelines detailed in [VCU IRB WPP VIII-7](#).
 6. Promptly report and/or respond to all inquiries by the VCU IRB concerning the conduct of the approved research when so requested.
 7. The VCU IRBs operate under the regulatory authorities as described within:
 - a) U.S. Department of Health and Human Services Title 45 CFR 46, Subparts A, B, C, and D (for all research, regardless of source of funding) and related guidance documents.
 - b) U.S. Food and Drug Administration Chapter I of Title 21 CFR 50 and 56 (for FDA regulated research only) and related guidance documents.
 - c) Commonwealth of Virginia Code of Virginia 32.1 Chapter 5.1 Human Research (for all research).

v. 030311

Informed Consent Form

An Evaluation of Job Satisfaction of Virginia Firefighters



Purpose of the Study:

This is a study being conducted by PhD Candidate John Kim, student at Virginia Commonwealth University. The purpose of this study is to evaluate the job satisfaction of Virginia Firefighters.

What will be done:

You will complete a survey, which will take 5-10 minutes to complete. The survey includes questions about why you engage in firefighting. I will also ask questions about your firefighter status (paid or volunteer) and whether you received a department t-shirt or hat in the last year.

After you complete the questionnaire, I will examine the level of satisfaction of Virginia Firefighters.

Benefits of this Study:

You will be contributing to knowledge job satisfaction of Virginia Firefighters. This study will assist in understanding job satisfaction techniques currently employed by Virginia Fire Departments.

Risks or discomforts:

No risks or discomforts are anticipated from taking part in this study. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.

Confidentiality:

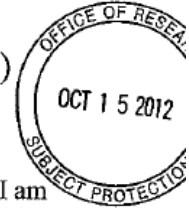
Your responses will be kept completely confidential. I will NOT know your IP address when you respond to the Internet survey. Each survey will be uniquely coded without connection to the participant. I will be the only individual seeing the survey responses.

If you have any questions, please feel free to contact myself at kimjh9@vcu.edu. The Principal Investigator for this project is Dr. Blue Wooldridge.

APPROVED

10-30-12 / SL / JR

Advertisement/ Subject Recruitment Material (Introductory E-Mail)



Dear Firefighter,

My name is John Kim and I am a PhD candidate at Virginia Commonwealth University. I am studying the job satisfaction of Virginia Firefighters. Your email was provided by the Virginia Department of Fire Programs and your Department Chief.

In a few days, you will receive another email from me with a survey link. The survey will take about 5 to 10 minutes to complete. Specifically, the survey will include questions about why you engage in firefighting. I will also ask questions about your firefighter status (paid vs. volunteer) and whether you received a department t-shirt or hat in the last year.

The survey is completely voluntary. Additionally, you may quit the survey at any time. Your answers will be completely anonymous and I will not collect any additional personal information.

If you have any questions about the survey, please feel free to contact me at kimjh9@vcu.edu. The Principal Investigator for this project is Dr. Blue Wooldridge.

Thank you in advance for your consideration.

John

APPROVED

10-30-12 / SL / JR

Appendix C

amaxime_tremblay
@videotron.ca

3/16/11

to me

Hello, no need to ask for my permission. I published my scale (and put it in Annex) so others can use it.

If you have a chance, just keep me posted on your results.

Best of luck in your studies,

Maxime.

----- Message d'origine -----

De: John Kim <johnkimiam@gmail.com>

Date: Mardi, 8 Mars 2011, 10:41 pm

Objet: Work Extrinsic and Intrinsic Motivation Scale

À: mtrem001@uottawa.ca

Maxime A. Tremblay, Ph.D.
University of Ottawa

VITA

John Hui Kim was born on March 16, 1981 in Seoul, South Korea and is an American citizen. He received his Bachelor's degree in English and Political Science from Georgia Southern University in 2004. He also received his Masters of Public Administration from Georgia Southern University in 2006. In 2013, he fulfilled the requirements for the Doctorate of Philosophy degree at Virginia Commonwealth University.

After working in higher education for 5 years, John began his career in 2009 at the United States Senate Sergeant at Arms Office where he worked with the U.S. Senate Page program developing education programs for pages, managing financial and technological resources, and served as program liaison to the members' office. In 2010, he accepted a position with the Department of Justice where he conducted program evaluations and reviews on Department programs including international prisoner treaty transfer and the use of medical guidelines for prisoner release. In 2012, he accepted a position with the Department of Labor where he currently serves as a program specialist.