

THE CONTRIBUTION OF SCHOOL-SITE HEALTH AND WELLNESS
OPPORTUNITIES, PERSONAL INTEREST IN HEALTH AND PERCEIVED
HEALTH COMPETENCE TO HEALTH-RELATED ROLE PERCEPTIONS IN
TEACHERS

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by
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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

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presented by Charles A. Brunette, a candidate for the degree of Doctor of Philosophy, and hereby certify that, in their opinion, it is worthy of acceptance.

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Excellence is to do a common thing in an uncommon way.

- Booker T. Washington

To my family and friends. Nothing would be possible without you.

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Abstract

Introduction. Recommendations from the Centers for Disease Control and the U.S. Department of Health and Human Services have established comprehensive frameworks to promote and maintain student health. One method, school-site health and wellness, seeks to enhance the health and well-being of school personnel. Existing research offers that health and wellness opportunities for staff contribute to student health by enhancing teacher interest in and competence for health. **Purpose.** This inquiry sought to investigate the association between the perceived availability of school-site health and wellness opportunities, personal health-related factors, and role perceptions pertinent to student health. **Methods.** A 107 item online questionnaire was utilized to collect data from a sample of Missouri teachers ($n = 104$). Hierarchical multiple regression was used to identify the predictive value of available health and wellness opportunities, personal interest in health, and perceived health competence on teacher role perceptions for student health. **Results.** Significant correlations between teacher personal health-related variables and teacher role perceptions for student health were identified. Most importantly, teacher personal interest in health significantly explained approximately 7% of the variance associated with teacher role breadth for student health. **Implications.** This study suggests that teacher personal interest in health may serve as a viable mechanism to enhance teacher role breadth for student health. Such a relationship also highlights the need for continued investigation regarding how school-site health and wellness may impact student health, the value of healthy teachers within schools, and the complex formation of teacher roles pertinent to actual engagement in student health promoting behaviors.

Chapter I

Introduction

The consideration for student health and well-being is a prominent topic in a variety of academic and public health disciplines. For a great number of years, leaders in the areas of education, public health, psychology, sociology, and others have mulled over the most efficient, effective, and enduring ways to incorporate health into the framework of formal education systems. Recommendations suggested by traditional coordinated school health programming (Allensworth & Kolbe, 1987), the U.S. Department of Health and Human Services Healthy People initiatives (2015), and the recently released Centers for Disease Control (CDC) Whole School, Whole Community, Whole Child concept (Giles, Hunt, Lewallen, Potts-Datema, & Slade, 2014) pinpoint that a healthy and supportive educational environment is integral to individual well-being and overall public health. Each of the noted models, as well as abundant research on the topic, emphasize the apparent and inextricable link between education and health. Investigation of this relationship has identified a reciprocal and broad influence suggesting, among a number of outcomes, that healthier students are better learners and that academic achievement in current students is positively related to improved physical, mental, and social health status as adults (Allensworth, Lewallen, Stevenson, & Katz, 2011; Basch, 2011; Dix,

Slee, Lawson, & Keeves, 2012; Vinciullo & Bradley, 2009). The prevention of unhealthy behaviors “during childhood is [also] easier and more effective than trying to change unhealthy behaviors during adulthood (SHPPS 2012, 2013, 1).” These conclusions help solidify the value of school-based health education and promotion to society. As a result, these relationships also provide rationale for identifying, evaluating, and improving individual factors that are associated with the role perceptions of faculty and staff and to the promotion of student health in academic settings.

The presence of health-related policies, a supportive culture, and a clearly defined approach to engage student health in schools is vital to the development of the total student. Inman, Van Bakergem, Larosa, and Garr (2011) cite the inclusion of health education and promotion as part of the primary school mission where various stakeholders should be included in the planning, curricula, and implementation process. Basch (2011) characterizes this coordinated approach to student health as “programs and services involving different groups of people, playing different roles, but forming a team and working toward a common set of priority goals (596).” Thus, to establish effective, school-wide health promotion programs, reinforcement for healthy behaviors must be delivered to students in a wide-ranging, supportive, and consistent manner from a diversity of school and external influences (Lohrmann, 2008). All too often, the responsibility for health education and promotion in schools falls to a single individual or a small group of individuals, the school administrator, the school nurse or a health and physical education teacher (Maras, Weston, Blacksmith, & Brophy, 2014). Failure to integrate a comprehensive menu of constituents, including school staff and teachers, family, and policymakers, in this process may result in ineffective and unsupported

school health initiatives that in turn may only neutrally or even negatively impact students. The resulting gaps in human capital and points of influence for students limit the potential effectiveness of school-based health promotion efforts. Hence, acknowledgment of the responsibility for student health education and promotion among a range of parties is essential to fulfilling a recommended, efficient, and effective school-wide health approach (Basch, 2011; Inman et al., 2011).

While an assortment of avenues and interventions for the coordinated promotion of student health exist, one particular area of interest that has received limited investigation within the framework of student health promotion is the effect of school staff health and well-being. Murray, Low, Hollis, Cross, and Davis (2007) suggest “that further research needs to be conducted on [staff health and] staff health promotion... to indicate promising directions” for further improving health outcomes within the school-based approach (599). School staff, including teachers, coaches, administrators, and other personnel, have far-reaching influence as leaders and role models and inevitably occupy an important position for promoting positive student outcomes (Wright, Wong, & Newill, 1997). In regards to health particularly, Resnicow et al. (1998) note that “teachers who place greater value on health promotion and practice more health enhancing behaviors may be more likely to implement health curricula and may serve as more effective student role models (250).” Open access to personalized, caring, and healthy role-modeling by a variety of school staff is considered one of the necessary and effective means for shaping health-related behaviors in student populations (Allensworth et al., 2011). In addition, a teacher’s fulfillment as a positive health role model in appearance and behavior may have immediate and lasting effects on student health and well-being

outcomes (Baghurst & Bryant, 2012; Dean, Adams, Thomas M., & Comeau, 2005). Most conveniently, the “direct access to large numbers of children in the school setting [place teachers] in a unique position to foster health promotion and prevention efforts” as role models on a broad basis (Walcott et al., 2008, 3). As part of the school setting, classroom teachers are the primary group of school staff who have the most direct and continual interaction with students. Given that “some of the most effective teaching [and modeling] occurs where no formal period is set aside,” it is as important as ever to uncover the factors and outcomes associated with teacher health and well-being in general and its possible translation to student health (McFall, 1932, 986). Thus, teachers are essential to maximizing the effects of student health promotion and programming efforts.

Research in the area of teacher health and well-being and its direct effects on role orientations toward student health has received little attention (Wechsler, Devereaux, Davis, & Collins, 2000). Attempts have been made to evaluate the impact of personal wellness planning for pre-service teachers (Yager, 2011), worksite wellness programming for school personnel (Resnicow et al., 1998), enhanced health training for pre-service teachers (Fahlman, Hall, & Gutuskey, 2013; Fahlman, Singleton, & Kliber, 2002), and in-service professional development for school personnel (Castelli, Centeio, & Nicksic 2013; Fahlman, McCaughey, Martin, & Shen, 2011) on the effects of student health outcomes. Findings, though, have been contentious. Despite the link between health and achievement, Murray et al. (2007), in a review of the literature, found “no such evidence... to support the effect of staff health promotion programs or school environment interventions on academic outcomes (589).” Resnicow et al. (1998) also failed to identify any real effects between the implementation of a worksite wellness

program and student health outcomes. Yager (2011), on the contrary, determined that health education and the transformative learning experience of drafting a personal wellness plan positively contributed to a pre-service teacher's personal well-being and capacity to teach health in the future. Other pre-service teacher interventions that include learning about health topics during training have proven successful in enhancing the perceived ability to teach and support health within a school setting (Fahlman, Hall, & Gutuskey, 2013; Fahlman, Singleton, & Kibler, 2002). Fahlman, McCaughtry, Martin and Shen (2011) found that in-service training and professional development improved perceived ability and intention to teach and support health topics in schools. King et al.'s (2013) appraisal of the HEROES program in Indiana, Illinois, and Kentucky implied that a healthy school culture flourishes when school personnel teach, support, encourage, reward, and participate in healthy behaviors and activities consistently and with other health components, such as nutrition programming, school health services, and community and parental involvement. Inasmuch, the perceptions and determinants of teacher health characteristics and their contribution to teacher role orientations is ripe for continued inquiry.

Teachers serve a distinct purpose within the school health environment. Faculty and staff influence on students varies depending on the context of occupational expectations, personal efficacy and perceived roles. One role in particular that teachers may serve is that of the “student health promoter.” Mazzer and Rickwood (2015) propose that appraisal as a promoter of student health among teachers and other school staff can be tremendously influential on the health-related behaviors projected to students. Support for student health and the role-modeling of healthy behaviors by a

multitude of school personnel establishes a sense of organizational cohesion and consistency within the school community (Castelli et al., 2013; Mazzer & Rickwood, 2013). “The support of individuals, [notably teachers], in the [school] population is essential for implementing environmental changes” that can produce behavioral modifications in students and other staff (McLeroy, Bilbeau, Steckler, & Glanz, 1988, 351). Unfortunately, despite promising findings in some lines of research, school personnel health and well-being has not been a priority, compared to other school health components, for researchers as a means to dramatically influence student outcomes. In addition, not all school personnel have expectations to or voluntarily assume responsibility for student health promotion (Maras et al., 2014). Therefore, a well-rounded and healthy school environment may flourish if a greater number of school personnel, most importantly teachers, consider health promotion as within the scope of their responsibility as well as within the framework of broader school health initiatives. Such responsibility is compromised, however, when teachers do not consider it as part of their job, are incompetent, unmotivated, or unaware of their potential influence to engage in certain actions associated with the promotion of student health (Maras et al., 2014; Weston, Anderson-Butcher, & Burke, 2008). Correspondingly, teacher engagement in student health may be representative of personal health-related antecedents including interest in health, personal efficacy associated with health-related issues, and role appraisal as student health supporters.

Kolbe (1986) and McKenzie (1988) reviewed the importance and development of staff health promotion programs within the framework of coordinated school health as a way for teachers to benefit their own health as well as the health of their students. Key to

the efficacy of healthy role modeling by faculty and staff is interest in their own health as well as interest in and the ability to provide a healthy school environment to students (Kolbe, 1986; McKenzie, 1988). Bandura's (1982) description of human agency supposes that interest and efficacy, or one's beliefs in their capability to carry out a particular task, are inherently and positively linked and may serve as viable precursors to drive action within a particular contextual role – in this case school personnel as supporters of student health. Self-efficacy is considered most applicable when context specific (i.e. a health teacher would consider herself competent in the action of teaching health); yet, predictive opportunity may exist across more general domains of functioning (i.e. a health teacher would consider herself competent in engaging in actions associated with student health in general) (Bandura, 1982). For example, Yager (2011) suggests that a pre-service teacher's completion of a personal wellness plan may “contribute to... personal well-being and the capacity to eventually teach about such topics (122).” In this case, it is surmised that knowledge, interest, and competence in one's own health is indicative of the future capability to be interested in and support healthy behaviors in students. In an educational setting, Kunter, Frenzel, Nagy, Baumert, and Pekrun (2011) identified positive relationships between teacher self-efficacy and enthusiasm, separately, for subject matter (intrinsic interest and excitement for a particular topic) and teaching (intrinsic interest and excitement in delivering a topic of interest to students). In the school context, enthusiasm and interest are considered closely related constructs that may play significant roles in intrinsic motivation to engage in behaviors that promote student health (Deci, 2009; Kunter, Tsai, Klusmann, Brunner, Krauss, & Baumert, 2008; Kunter et al., 2011; Schiefele, Streblow, & Retelsdorf, 2013). As a result, motivation to

enthusiastically engage in student health promoting behaviors by school personnel may be a positive consequence of increased personal interest and competence in health behaviors at the individual level. It may also suggest that engagement in student health can be fostered through the development of a personal interest in one's own health through school health and wellness initiatives (Allegrante, 1998).

School personnel, especially those interested in and competent at engaging in their own health, are in a social position to positively support student health. The assumption for this relationship is made numerously, yet remains ambiguous within the school environment (King et al., 2013; Maras et al., 2014; Mazzer & Rickwood, 2013, 2014, 2015; Murray et al., 2007). Therefore, a better understanding of the roles that school personnel perceive as supporters for student health and why these roles are perceived is required. It must be noted that while student health is a factor that may not be strictly linked to every school employee's job description, it is indeed something that warrants high levels of school personnel involvement to establish a cohesive and consistent student health environment. A unique theoretical lens available to portray the role appraisal of a school personnel's support for student health within school environments is related to Organ's (1997) concept of *organizational citizenship behavior* and Borman and Motowidlo's (1997) *contextual performance* (DiPaola & Hoy, 2005). Organizational citizenship behavior (OCB) is basically defined as discretionary individual employee behavior that supports and contributes to the positive social and psychological environment of an organization at both individual and aggregate levels (Jimmieson, Hannam, & Yeo, 2010; Organ, 1997). Contextual performance expands OCB to suggest that regardless of discretion, reward systems, and job descriptions,

persons assume responsibilities that enhance the context of the work environment (Borman & Motowidlo, 1997; Organ, 1997). Role appraisal, for the purposes of this inquiry, is considered how an individual perceives their own actions and specific student health supporting actions as either in-role or extra-role and whether he or she feels competent engaging in those roles. Overall, such individual roles are considered incrementally vital to the fidelity of a school's implementation of school health initiatives at the organizational level (DiPaola & Hoy, 2005; Flaspohler, Meehan, Maras, & Keller, 2012). Personal actions are considered either in-role or extra-role to an individual's organizational position, despite administratively prescribed job duties, and are holistically described using the term *perceived role breadth* (McAllister, Kamdar, Morrison, & Turban, 2007; Morrison, 1994). In-role tasks are actions that fall under an individual's perceived organizational responsibilities (Morrison, 1994). Extra-role tasks are actions that fall outside the scope of an individual's perceived organizational responsibilities (Morrison, 1994). Perception of in-role or extra-role responsibilities may be conceptualized very differently based on a number of factors. It is presumed that actions that are in-role (i.e. a health teacher supporting an active lifestyle) are more readily undertaken by employees than extra-role tasks (i.e. a health teacher teaching math) (Morrison, 1994). Also, individuals who feel competent in their roles are more likely to carry them out (Mazzer & Rickwood, 2015; McAllister et al., 2007). The capability of employees to carry out tasks is known as *perceived role-efficacy* and is commonly considered an important role perception variable (McAllister et al., 2007). Bearing this in mind, a teacher's perception of supporting their own health and the health of their students as in-role responsibilities and his or her perceived ability to take on those

responsibilities seemingly contributes to the aggregate school health environment. Thus, the theoretical umbrella of OCB and contextual performance serves as a practical method through which to investigate the school employee's basic role perceptions associated with behaviors that promote not only their own health, but also student health on an additively broad scale regardless of prescriptive job duties (Mazzer & Rickwood, 2013, 2015).

Research in academic settings regarding school personnel OCB, or "beyond the job" behaviors, has found that it can influence student quality of life measures (Jimmieson et al., 2010), academic achievement (DiPaola & Hoy, 2005), and teaching efficacy (Hoy & Woolfolk, 1993). Mazzer and Rickwood (2013, 2015) applied OCB concepts to the context of student mental health and uncovered that role perceptions positively influence engagement in student health promoting behaviors in both teachers and coaches.

Conveniently, role perceptions are determinative of how broadly one defines his or her responsibilities and how capable he or she feels in carrying them out (McAllister et al., 2007; Morrison, 1994). A most effective student health approach would then necessitate that teachers be competent in carrying out health supporting behaviors and consider supporting student health as primarily within their roles as school personnel.

Teachers can be an "integral part of the coordinated school health program (Allegrante, 1998, 192)." By understanding and "fostering interest in their own personal health, [teachers] are more likely to become interested in the health of students..., better understand the health needs of students and be more effective teachers of health (Allegrante, 1998, 192)." Theoretically merging the precursory concepts of personal interest and competence in one's own health may offer deeper insight to the connections associated with a teacher's role appraisal and behavioral support as part of the

comprehensive approach to student health. Clarifying this link may provide additional credibility for the continued focus on teacher health factors and school-site health programming as essential to fostering both staff and student health. The overarching purpose of this inquiry is to better understand the availability of staff health and wellness opportunities, perceived health competence, and interest in health as antecedents to the health-related role perceptions of teachers.

Statement of the Problem

Currently, there is a dearth in the literature regarding the potential influences associated with teacher health and well-being and its relationship to teacher role perceptions for engagement in student health. Frequently anecdotal, the fundamental assumption is that healthier teachers are better health role models for students (Allensworth & Kolbe, 1987; Hartline-Grafton, Rose, Johnson, Rice, & Webber, 2009; Wechsler et al., 2000). Allegrante (1998) and Resnicow et al. (1998), among others, suggest further that teachers who have a heightened interest and competence for their own health may be more willing and interested to take an active role in promoting health in their students. Thus, “a good teacher is taken to be one who embraces healthy values and dispositions for him and herself and, perhaps just as important, displays this commitment in [cognitive and] performative ways” in the school setting (Schee & Gard, 2014, 215). These assertions are closely related and quite apparent through the inclusion of a *faculty and staff health promotion* component in the widely recognized and recommended Coordinated School Health Program (CSHP). The purpose of the component is to improve the health and well-being of teachers and other school personnel. Effects of worksite wellness programming to promote faculty and staff health

are twofold; to provide direct “economic benefits for the district and [to] improve the productivity of school personnel (Allensworth & Kolbe, 1987, 412),” and more far-reaching, to serve as a “resource for teachers and staff to become healthy role models (Alliance for a Healthier Generation, 2007 *as cited by* Eaton, Marx, & Bowie, 2007, 564).” While findings have been favorable in the assessment of potential economic and performance outcomes for healthy teachers (Gillan et al., 2014), attempts to assess the direct relationship between teacher personal health characteristics and its effect on student outcomes has not been as clear (Murray et al., 2007). Therefore, to obtain a more nuanced view of Allegrante’s (1998) premise, this inquiry investigated the perceived availability of school health and wellness activities, teachers’ perceived interest and competence in personal health, and its relevance to their perceived role perceptions for engagement in student health promotion. Uncovering the teacher perspective of personal interest and competence in health as an antecedent for role perception has contributed to the explanation of factors underlying to faculty and staff health and wellness opportunities as a suitable mechanism to initiate engagement in student health promotion by teachers.

Research Questions and Hypotheses

Availability of School-site Health and Wellness Opportunities and Personal Interest in Health and Perceived Health Competence

Currently, it is supposed that the availability of faculty and staff health promotion programming in schools is a viable medium through which to support not only the personal health and wellness of teachers, but the health of the students they serve (Allegrante, 1998). While the current inquiry did not assess whether individuals actively

participate in staff health and wellness programming, it attempted to connect the perceived availability of staff health and wellness opportunities to perceived personal interest in health and health competence. The initial step in this inquiry was to assess the relationship between perceived availability of faculty and staff health and wellness opportunities and perceived personal interest in health and perceived health competence, after controlling for health status. Health status is considered strongly related to feelings associated with perceived personal health variables, including health competence, locus of control for health, and interest in receiving prevention information (Kulik & Mahler, 1987; Seeman & Seeman, 1983; Smith, Wallston, & Smith, 1995).

Research Question 1: Does the perceived availability of school-site health and wellness opportunities influence personal interest in health and perceived health competence in teachers?

Hypothesis 1:

- a. *The perceived availability of school-site health and wellness opportunities will be positively related to teacher personal interest in health when controlling for perceived health status.*
- b. *The perceived availability of school-site health and wellness opportunities will be positively related to teacher perceived health competence when controlling for perceived health status.*

Perceived Role Breadth

Given the available literature, it is supposed that teachers who are more cognitively connected to, excited about, and adept at personal health issues are better health role models for their students (Allegrante, 1998; Resnicow et al., 1998). The

foundational argument regarding student health is that prepared and able teachers are in a position to more appropriately convey healthy behaviors, through their words and actions, as well as effectively support organizational student health initiatives (Parcel, Simons-Morton, & Kolbe, 1988; Yager, 2011). Flaspohler, Meehan, Maras, and Keller (2012), however, recommend that “school and school personnel are not (or should not be) a passive part of the process of implementation” of student health programming and support and should take initiative within the school health framework (431). To be most effective health role models within the organizational framework, teachers “should define their job in proactive rather than passive terms, such as by perceiving [student health] as their responsibility (Parker, 2007, 407).” Actively acknowledged roles, especially those that are undertaken with personal competence and interest, are more likely to be carried out and are more likely to contribute to organizational goals (Kunter et al., 2011; Linnenbrink-Garcia et al., 2010; Long & Hoy, 2006; Morrison, 1994). Considering, it is quite apparent that teachers who are interested and competent in health should actively identify student health as part of their in-role responsibilities (role breadth). Nevertheless, this specific relationship has yet to be thoroughly vetted. Therefore, the current inquiry sought to investigate the connections between the antecedents of teacher personal interest in health and perceived health competence as predictors for perceived role breadth for student health. Per the available literature, control variables accounted for the age of participants (in years), the tenure of participants (in years), the education level of participants, the perceived health status of participants, and the availability of school-site health and wellness opportunities (Morgeson, Delaney-Klinger, & Hemingway, 2005; Smith, Wallston, & Smith, 1995). Age, tenure and education have been construed in a

variety of settings as related to enhanced role breadth and other role perceptions (Morgeson et al., 2005; Morrison, 1994; Parker, 1998). Perceived health status and the availability of school-site health and wellness opportunities were also considered influential to personal interest in health and perceived health competence a priori. Statistical analysis was employed to identify contributions of personal interest in health and perceived health competence over and above previously accepted contributors to the role breadth and health-related variables noted (Tabachnick & Fidell, 2007).

Research Question 2: Does personal interest in health and perceived health competence influence teacher perceived role breadth for student health?

Hypothesis 2:

- c. *Teacher personal interest in health will be positively related to perceived role breadth for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*
- d. *Teacher perceived health competence will be positively related to perceived role breadth for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*
- e. *Teacher personal interest for health and perceived health competence is incrementally related to perceived role breadth for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*

Perceived Role Efficacy

In addition to role breadth, a second role perception variable important to this inquiry is perceived role efficacy. Perceived role efficacy “concerns the extent to which people feel confident that they are able to carry out a broader and more proactive role (Parker, 1998, 835).” Perceived role efficacy is considered a conceptually related, yet distinct construct from role breadth in that it involves the perceived capacity to carry out a role rather than whether a role is considered part of one’s organizational duty (McAllister et al., 2007). Findings by Mazzer and Rickwood (2015) suggest only a moderate association between role breadth and role efficacy with inter-correlations between the two constructs ranging from .56 to .68. Under many pretenses, efficacy beliefs are fostered through interest and mastery that determine “what challenges to undertake, how much effort to expend in the endeavor, how long to persevere in the face of obstacles and failures, and whether failures are motivating or demoralizing (Bandura, 2001, 10).” Thus, it is suggested that school personnel who have an interest in health and who feel competent at engaging in health-related behaviors will feel competent and determined in projecting health to their students. In the student health context specifically, perceived role efficacy has been identified as a strong predictor for perceived teacher engagement in student health promotion and prevention behaviors separately from role breadth (Mazzer & Rickwood, 2015; McAllister et al., 2007). Similar to Hypothesis 2, control variables accounted for the age of participants (in years), the tenure of participants (in years), the education level of participants, the perceived health status of participants, and the perceived availability of school-site health and

wellness opportunities (Morgeson, Delaney-Klinger, & Hemingway, 2005; Parker, 1998; Smith, Wallston, & Smith, 1995).

Research Question 3: Does personal interest in health and perceived health competence influence teacher perceived role efficacy for student health?

Hypothesis 3:

- a. *Teacher personal interest in health will be positively related to perceived role efficacy for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*
- b. *Teacher perceived health competence will be positively related to perceived role efficacy for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*
- c. *Teacher personal interest for health and perceived health competence is incrementally related to perceived role efficacy for student health when controlling for age, tenure, education level, perceived health status and the availability of school-site health and wellness opportunities.*

Basic Assumptions

The foundation of the current inquiry is that teachers are undoubtedly role models for student health (Allegrante, 1998; Jourdan, Mannix McNamara, Simar, Geary, & Pommier, 2010; Wechsler et al., 2000). It is also assumed that each teacher subjectively constructs, perceives and carries out his or her status as a role model for health very differently depending on a variety of intrapersonal, interpersonal, and environmental

factors (Morrison, 1994; Thornton & Nardi, 1975). Thus, the current inquiry sought to parcel only a small and limited piece of the understandably broader role acquisition process associated with teacher engagement in student health and did not capture all elements vital to the role building process. In regards to the *a priori* conditions for this inquiry, it has been noted generally that older persons, longer tenured persons, and more educated persons are more knowledgeable, adept, and experienced and “are likely to define their job responsibilities more broadly (Morgeson, Delaney-Klinger, & Heningway, 2005; Morrison, 1994, 1548).” Eaton, Marx, and Bowie (2007) suggest that individuals who perceive an increased availability of staff health and wellness opportunities, especially in schools, have a heightened chance of participating in the programming and behaving in healthier ways (Gillan et al., 2014; Linnan et al., 2001; Wechsler et al., 2000). Availability and utilization of health and wellness programming is also presumed to improve knowledge of health risks and benefits, as well as pique interest and enhance personal efficacy “to adopt… [healthy] lifestyle habits and maintain them (Bandura, 2004, 144; Eaton, Marx, & Bowie, 2007; O’Loughlin, Renaud, Paradis, & Meshefedjian, 1996).” Further, the study considered teacher knowledge of both personal and student health issues as manifested through the perceived health competence and role efficacy measures (Bandura, 2004; Fahlman, Singleton, & Kliber, 2002). According to Bandura (2004), “knowledge of health risks and benefits creates the precondition” for action and is a core determinant of considering engagement in healthy behaviors. It is understood that such pertinent health knowledge contributes to the ability to competently manage one’s health and to engage in healthy behaviors (Bandura, 2004; Smith, Wallston, & Smith, 1995). Fahlman, Singleton, and Kliber (2002), Shepherd et al.

(2013, xiv), and Yager (2011) also suggest that increases in teacher knowledge about health issues goes hand in hand with “confidence and values in relation to health” as well as the perceived ability and eventual action to deliver health information and support to students. Both assumptions suppose that teachers who have heightened levels of perceived health competence and role efficacy also have, at minimum, baseline knowledge of personal and student health information. The noted conditions have been assumed as true given existing literature.

Delimitations

This investigation was bounded through both practical and methodological characteristics. Given limited resources, geographical scope was restricted to agreeable school districts within the state of Missouri. School districts were obtained via personal contact with school administrators on a district by district basis once Institutional Review Board (IRB) approval was granted. The scope of the study participants ranged a variety of grade levels, subjects taught, tenure, and age. The sample was predominantly white and female. Further, generalizability to a variety of school environments beyond those involved in the study is difficult given the additional layer of not only individual characteristics, but school characteristics of the five participating districts that may influence the sample; such as, setting (rural v. urban), school social environment (i.e. a “social culture of health and wellness”), availability of funding and resources within the school (i.e. health and wellness budget, health practitioners), availability of health and wellness options outside of school, and administrative buy-in amongst many others (Flaspohler et al., 2012; Hoyle, Samek, & Valois, 2008). The scope of the study was also bounded by the selected measures, administration method of the questionnaire, and the

timing of expected dissemination. The questionnaire was distributed electronically through available listservs and email distribution lists administered by school personnel upon district and IRB approval. To note, electronic survey methods may have inadvertently encouraged or omitted certain groups of school personnel (i.e. older school populations) or were administered at a time when school personnel were unable to participate in the study as a result of other required job responsibilities (Kaplowitz, Hadlock, & Levine, 2004). Distribution of the questionnaire occurred during the winter of 2015 and early spring of 2016. Participation in health and wellness opportunities, especially those activities or facilities available outdoors, may be less perceived as an “available opportunity” than during warmer months. In addition, perception of health status and health competence may have been falsely deflated during colder months given potentially heightened levels of illness.

Limitations

The current study included inherent limitations potentially impactful to both construct and internal validity. The bulk of limitations are a matter of available resources as well as maintaining particular focus on the assertions made in the teacher and student health literature. Though standard and formerly utilized instrumentation and methods were used to collect data, selection and modification to the instruments as well as factors surrounding the dissemination of the questionnaire impinged on the overall value of the hypothesized relationships. For instance, questionnaire components have been poached from a number of conceptual frameworks and topical areas or created due to the unavailability of existing and validated measures. In addition, some measures have not been transposed to the current study completely or have been slightly altered in an effort

to both maintain a shortened time commitment for participants as well as to better fit the proposed measures to the context of the study. Thus, it is acknowledged that the soundness of any findings based solely on the quantitative results obtained via the methods and instrumentation in this inquiry may be disputed pending further research and validation to the proposed sample. Secondarily, proposed independent variables lack strict experimental manipulation and are applicable to only a select portion of the total teacher role acquisition process. It is presumed that the entirety of the teacher role acquisition process is complex and associated with a number of intrapersonal, interpersonal, and environmental influences. The current study sought to control for some of these factors, but due to practical limitations (i.e. sample breadth, instrument length, etc.) was unable to account for all possible influences. As a result, inferences made post-study are considered solely descriptive in nature and may involve unknown and unexplored intervening relationships. Thirdly, the construct of health has been generalized and is not specific to any sub-category of health and wellness (i.e. nutrition, physical activity, etc.). While most prior research has specified a particular health-related area, this study sought to identify health and wellness as a generalized topic similar to other school-based topics (i.e. math, English or science). This approach results in the ambiguity in definition across participants. However, the purpose of the study was not to assess how teachers define health, but rather the possible health-related antecedents associated with how teachers conceptualize their roles as supporters for student health in general. Further, the study considered purely cognitive perceptions and did not collect data associated with actual health-related behaviors.

Definition of Terms

Health – the condition of being sound in body, mind, or spirit; especially, freedom from physical disease or pain (Merriam-Webster.com, 2015).

Coordinated School Health Program (CSHP) – a comprehensive eight component model used in schools to promote and maintain a healthy school environment, healthy students and healthy faculty and staff (Allensworth & Kolbe, 1987).

Faculty and staff (school-site) health promotion – a variety of methods, activities and programming used to improve the health and well-being of faculty and staff in educational workplace settings (Allegrante, 1998; McKenzie, 1988).

Student health – the condition of students being sound in body, mind, or spirit; especially, free from physical disease or pain (Merriam-Webster.com, 2015).

Perceived Health Status – the individual perception of one's own health and well-being, including his or her physical, mental and/or emotional condition (Pender, Walker, Sechrist, & Frank-Stromborg, 1990).

Personal (or individual) interest in health – the relatively long-term orientation of an individual toward health, including both positive feelings as well as the view that health is personally meaningful and important (Linnenbrink-Garcia, Patal, & Messersmith, 2013; Schiefele, Krapp, Prenzel, Heiland, & Kasten, 1983; Schiefele, 1991).

Perceived health competence – the degree to which an individual feels capable of effectively managing his or her health outcomes (Smith, et al., 1995).

Role perception – how employees define and classify their role in the workplace (McAllister et al., 2007).

Role breadth – the range of behaviors and activities that an individual considers as part of their job (McAllister et al., 2007; Morrison, 1994).

In-role behavior – a behavior that one considers as part of their job (Morrison, 1994).

Extra-role behavior – a behavior that one considers beyond their job (Morrison, 1994).

Role efficacy – the extent to which an individual feels confident that he or she is able to carry out a perceived role (Parker, 1998).

Significance for the Study

Charles Basch (2011) argues that “healthier students are better learners” and that the reciprocal effects of health and education are paramount to preserving “the quality of individual, family, and community life (593).” The interdependent nature of education, health, and social outcomes throughout “the years of schooling are major factors in determining social and occupational status in adulthood and health status throughout life (Murray et al., 2007, 590; Ross & Wu, 1996).” A well supported mixture of a healthy

school culture, school-based health services, and health-related programming has been considered fundamentally important to this endeavor (King et al., 2013; Maras et al., 2014; Murray et al., 2007). “However, the pathways through which education leads to better health [and vice versa, is] still not clearly understood (Murray et al., 2007, 590).” One such pathway, school-based faculty and staff health promotion, has been historically proposed by researchers as a medium to improve the health of students and staff alike (Allegrante, 1998; Allensworth & Kolbe, 1987). It is implied that “staff who become interested and active in maintaining and improving their own health may become more interested and active in improving the health of students and may provide powerful role models (Allensworth & Kolbe, 1987, 412).” As noted, this area, amongst many other school health initiatives, has received limited attention as a viable method to not only improve the health status of school personnel, but to also serve as a mechanism to improve and support the health and related educational and social outcomes in students (Murray et al., 2007). Unfortunately, according to Eaton, Marx, and Bowie (2007), most faculty and staff health promotion programs are sparsely implemented and do not address health comprehensively. Given these findings, it is not surprising that little to no research has uncovered direct associations between faculty and staff health promotion and student outcomes and only anecdotal recommendations exist expressing the importance of faculty and staff health to student health. To help remedy this, the current inquiry has included the additional factors of personal interest in health and perceived health competence as potentially intermediate to faculty and staff health and wellness opportunities and teacher role perception outcomes. Both constructs are indicative of personal engagement in health behaviors and proactive role behaviors (Bandura, 2004; Kunter et al., 2011; Lisa

Linnenbrink-Garcia et al., 2013; Parker, 1998). With teachers being at the forefront in monitoring and positively influencing their students, it is critical to further understand their perceptions concerning whether the availability of staff health and wellness opportunities impact personal health perceptions (interest and competence) and how such factors may also shape their perceived roles in student health (Mazzer & Rickwood, 2015; Reinke, Stormont, Herman, Puri, & Goel, 2011). Uncovering such associations will contribute to the existing literature and may lead to further study and consideration for staff health and well-being as a prominent piece to the fabric of school health.

Chapter II

Review of the Literature

School Health Initiatives in Practice: The Coordinated School Health Model

“For more than a century, schools [have] been called on to play an important role in addressing health and social needs due to their strategic ability to reach children and families (Allensworth, Lawson, Nicholson & Wyche, 1997, 49).” Early broad-based school health models focused primarily on three limited areas; the components of health and physical education, health services, and healthy school environments (Allensworth & Kolbe, 1987; Lohrmann, 2008). The purpose of the “three legged approach” was originally and primarily used to address infectious disease, but has since shifted to become more comprehensive in teaching, supporting and reinforcing a variety of health knowledge and behaviors (Allensworth et al., 1997). In the early 1900s, constant access to children inherently put schools at the forefront as health service providers for the administration of vaccinations, provision of self-care tactics, and routine treatment for illness and infection (Allensworth et al., 1997) During this time, schools also began to hire school nurses and established “school-linked… medical and dental clinics” to provide student health services in conjunction with local public and community health initiatives (Allensworth et al., 1997, 37). Educational institutions also engaged social service organizations to provide students with nutritional services to “fight malnutrition

and hunger and their consequent effect on learning (Allensworth et al., 1997, 37)."

Progressing into the 1920s and beyond, schools initiated health and hygiene courses mirroring traditional course subjects such as art, science and math (Allensworth et al., 1997). These courses covered "nutrition, personal health habits, diseases, exercise, alcohol and tobacco, family health and sex education (Allensworth et al., 1997, 41)." The push for knowledgeable school personnel to address these issues, specifically health and physical education teachers, dramatically increased as such courses became legally mandated and formalized within the school setting (Allensworth et al., 1997; McFall, 1932). Major emphasis on physical education in schools occurred as a result of World Wars I and II to prepare the nation's young men for battle and have continued through today (Allensworth et al., 1997). In the 1960s, "new social morbidities of children and young people began to increase in visibility... mental, social and emotional health became [legitimate health] issues" within schools (Allensworth et al., 1997, 48). The requisite for a healthy teacher also became apparent as a factor associated with improvements in human resource management as well as an important contribution to student role modeling and the school environment (Allensworth et al., 1997; Schneider, 1950). As time progressed, the three legged approach evolved to account for students' changing morbidities and broader "social determinants of health" such as socioeconomic status, family and community dynamics and the underlying political landscape (Allensworth et al., 1997; Braveman, Egerter, & Williams, 2011). The issues affecting children's health have currently become broader and so too have the approaches used to address them. Allensworth and Kolbe (1987) proposed an integration of various health-related components, associated with a myriad of health issues, into a single model titled

the Comprehensive School Health Program. This model sought a more efficient and across-the-board approach by a variety of constituents to address student health-related issues at multiple ecological levels and from a multitude of contextual inputs.

The Comprehensive School Health Program was aptly named to explain the overarching effect of eight separate components on the health of schoolchildren. The eight component integrated school health model “addresses the physical, mental, emotional and social dimensions of health” from a variety of influence points (Allensworth & Kolbe, 1987, 411). [See Table 1 for description of each component]. Each component serves as reference to a specific health-related area within the school environment. Each component is theoretically linked to one another and is operationalized per individual, institutional and community support. Fetro (2010) notes that while the model originally served a comprehensive purpose, it has evolved as a dynamic and interrelated model that requires purposeful *coordination* between and amongst all systems to maintain and alter behavior. The slight change to a *coordinated* approach sought to alleviate the duplication of efforts, expand constituent support, consolidate resources and create a more efficient path to the ultimate goal of supporting student health (Allensworth & Kolbe, 1987). Quickly after its introduction, the Centers for Disease Control (CDC) promoted the Coordinated School Health Program (CSHP) as a systematic and preferred method for the approach to school health (Lohrmann, 2008). The CSHP sought to offer a method by which to account for intrapersonal, interpersonal and environmental effects within and across each component area. As a result, it is believed that the effective implementation of CSHP is wide-ranging, adaptable and critical to establishing healthy behaviors in students. Effective implementation of CSHP

requires cooperative effort across varying levels and from a variety of interpersonal, social, organizational and political avenues (Basch, 2011; Lohrmann, 2008).

Implementation of the Coordinated School Health Model: It Starts with the Implementers

Student health behaviors are promoted and supported via each of the eight components in the CSHP. As highlighted in the original iteration of the CSHP, Allensworth & Kolbe (1987) suggest that “if coordinated to address a given health

Table 1

Components of the Coordinated School Health Model (Allensworth & Kolbe, 1987)

Component	Description
Health Education Program	K-12 curriculum that addresses the physical, mental, emotional, and social dimensions of health. To teach, motivate and enable students to maintain and improve their own health.
School Health Services	Coordination by professional health providers (school nurses) to lead prevention, intervention and remediation of health-related issues.
School Health Environment	The psychological and physical surroundings in which students and school personnel are expected to work.
Physical Education Program	Serve as a means for maintaining cardiovascular and respiratory capacity, muscular development, motor performance, physiologic and metabolic functions, self-expression and social development and cognitive functioning.
School Counseling Services	To provide vocational and developmental guidance.
School Psychology Services	To provide psychological assessment, consultations and interventions to improve the psychological performance and adjustment of students.
School Food Services	To provide nutritional education and daily nutritional intake to students.
Worksite Health Promotion	To promote school personnel health and well-being.

behavior or health problem, [the eight-component CSHP] could have complementary if not synergistic effects” on student health outcomes (409). Ultimately, the fidelity of CSHP relies on the implementation of these components in a complete and integrated manner from a variety of influence points. According to the most recent School Health Policies and Practices Study (SHPPS) 2012, most states and districts designated a coordinator for at least a portion of the components related to the CSHP. The most popular coordinated program areas were identified as nutrition services (96.1% states, 90.1 districts), health education (88.2% states, 62.1% districts), physical education (82.0% states, 63.2% districts) and health services (74.5% states, 79.2 districts). The least coordinated program areas as of 2012 were mental health and social services (56.0% states, 63.1% districts) and faculty and staff health promotion (50.0% states, 40.1% districts). “While the eight-components approach, and variants of it, is a very successful innovation that has enjoyed [an] impressive dissemination and adoption curve,” these results exemplify potential gaps in the complete implementation and support of health promotion, particularly CSHP, within schools (Lohrmann, 2008, 696). Vinciullo and Bradley (2009) attempted to “simultaneously and systematically study all [CSHP] components (excluding “staff health promotion”)” and found that many schools in fact have difficulty implementing the full gamut of CSHP (463). Their findings identified many positive associations with the implementation of certain CSHP components and student outcomes. However, despite the results, incomplete implementation of the CSHP model may limit program effectiveness in maximizing student and staff health outcomes and the creation of a truly comprehensive health environment (Flaspohler et al., 2012). Reasons for partial implementation of CSHP components may have much to do with the

lack of interest and ability for schools and the individuals within them to prepare for CSHP programming, effectively acknowledge student and staff health issues and implement select evidence-based programs (Maras et al., 2014).

The successful implementation of programs that support student health become reality if the school community and personnel championing them are willing, prepared and supported (Flaspohler et al., 2012; Parcel et al., 1988). In fact, “it is most effective where the school uses its full organizational potential to promote health among students... to facilitate improved learning outcomes, increases in emotional well-being and reductions in health risk behaviors (Jourdan, Mannix McNamara, Simar, Geary, & Pommier, 2010, 519).” Flaspohler, Meehan, Maras, and Keller (2012) identify organizational capacity-building associated with CSHP through both specific and general means. Specific capacity involves the implementation of a particular intervention or program, whereas “general capacity-building is intended to enhance the infrastructure, skills and motivation of an organization (Flaspohler et al., 2012, 431).” Therefore, in order to implement a program tied to a specific health issue, the school must have specific complementary resources and efficacy and an already established infrastructure for student health. For instance, Story's (1999) review of school-based obesity intervention and prevention programs cites the use, across various studies, of specially-developed nutrition programming and the availability of trained physical education and health education personnel and curricula that can distinctly address obesity-related issues. General capacity-building is established pre-intervention and is determinative of a school’s ability to generally adopt, disseminate, implement and support specific health-related programs as required (Flaspohler et al., 2012). An example of issues associated

with general capacity-building is noted in Hoyle, Samek, & Valois's (2008) case study of Pueblo, Colorado School District 60. Noted were prominence of effective leadership and management structures, internal and external support, attainment and allocation of resources (both fiscal and human), supportive policies and procedures for health programming and ongoing professional development for staff (Hoyle et al., 2008). Limited school policies, resources, funding, manpower and political support impinge on a school's general-capacity to implement specific health promotion initiatives for students and detract from the mission to support a healthy school environment (Hoyle et al., 2008; Maras et al., 2014). Parcel, Simons-Morton, and Kolbe (1988) suggest, among these limitations that the implementation of effective CSHP components may be most compromised without a sound foundation of preparedness and commitment "from the program implementers (443)."

Implementers include a variety of school personnel; the school administrator, the school nurse, classroom teachers, food preparers, school safety officers and others. These individuals serve as the cornerstone of the capacity-building process and are the units by which organizational capacity and the effective implementation of student health initiatives and support is built. They are representative of "a team... that cuts across administrative levels and areas of responsibility" to form a comprehensive and cohesive *organizational unit* to plan, administer and monitor school-based health interventions (Castelli et al., 2013; Parcel et al., 1988, 443). Therefore, the unique capacity of the individual school staff member is tremendously important as it adds to, "interacts [with] and is interdependent with [the] organization[al] capacity" to promote student health (Wixson, 2003 *as cited by* Hoyle et al., 2008, 2). The foundation of school personnel to

effectively serve as student health supporters is initiated within this framework as a factor of involvement in the planning and carrying out of student health initiatives, pre- and in-service health-related training and through school personnel “awareness and interest in their own health promotion (Parcel et al., 1988, 443).” Key to building individual health-related capacity then is to structure an environment that fosters school personnel health and wellness that “provides staff members with an integrated approach to improving their health, creates an environment that reduces exposure to threats to their health, and incorporates health promotion into the culture of the worksite (Eaton, Marx, & Bowie, 2007, 558).” This enhanced worksite culture and the continual opportunity for personal and professional development in the area of health is “crucial to advancing” a school’s general capacity to support a breadth of CSHP components and specific programs associated with student health (Flaspohler et al., 2012, 7). Despite limited implementation and research focus, the importance of school-based faculty and staff health promotion as an essential capacity-building tool for student health promotion is evidenced by its inclusion within the CSHP model and its likely and commonly cited association to health-related role modeling and instruction by school personnel (Allegrante, 1998; Fisher et al., 2003; Wechsler et al., 2000). Therefore, with ample institutional support and coordinated efforts, school personnel have an obvious and significant opportunity to both improve the capacity to influence their own health as well as the capacity to positively contribute to the “constellation of forces” that shape student health behaviors (Lewin, 2014).

The capacity to implement effective health promotion and CSHP initiatives is multi-faceted. A coordinated effort and “a shared responsibility of the educational

community and the public to ensure the capacity of the organization as well as the individuals within the organization” to promote healthy lifestyles is required for optimal student outcomes (Hoyle et al., 2008). Organizationally, the availability of enticing school staff wellness programming, pre- and in-service training, social support systems and policies to ease participation in health behaviors is recommended as vital to boosting the capacity for school personnel to promote student health (Allegrante, 1998; Fahlman et al., 2013; Gillan et al., 2010; Linnan et al., 2001; Parcel et al., 1988; Telljohann, Everett, Durgin, & Price, 1996). At the individual level, factors such as topical health knowledge, competency to engage in health promotion and education efforts and an interest in personal health and the health of students by teachers have been cited as important to a healthy school environment (Allegrante, 1998; Fahlman et al., 2002; Telljohann et al., 1996; Yager, 2011). On the other hand, barriers to teacher engagement in student health may exist as a matter of a “lack of time to balance competing priorities in the classroom, teachers’ lack of interest toward the subject, and teachers’ lack of recognition,” knowledge and competence to address health-related problems in the school setting (Castelli et al., 2013; Fahlman et al., 2013; Melo, De Moura, Aires, & Cunha, 2013, 5; Telljohann et al., 1996). Further, “a teacher, who has many priorities of schooling, including building literacy and numeracy skills; scientific and artistic competencies; societal, historical and cultural dimensions and who have in fact to provide the means for all to succeed... [may not] have a clear view of his or her own contribution to health promotion” without adequate knowledge, training and awareness of their roles as health promoters (Jourdan, Samdal, Diagne, & Carvalho, 2008). On a global level, Siegel, Prelip, Erausquin, and Kim (2010) identified school worksite wellness as an “opportunity

[for teachers] to collectively improve health (332).” While the collective opportunity was initially embraced by school personnel, the “competing sentiment was that the program was a burden..., compounded [mostly] by poor communication” and other political and environmental constraints (Siegel et al., 2010, 332). Research has also highlighted the relatively poor health status, lack of participation in healthy behaviors and lack of acceptance as role models for health by some school personnel despite the availability of staff health promotion programs and student health training (Alker, Wang, Pbert, Thorsen, & Lemon, 2015; Blair, Tritsch, & Kutsch, 1987; Hartline-Grafton et al., 2009; Webber et al., 2012). As a result, school personnel lack of knowledge and interest in their own health, the health of students and their inability to engage in health related behaviors may prove most detrimental to their status as health-related role models and their capacity to contribute to a healthy school environment (Hartline-Grafton et al., 2009).

School Personnel Health and Well-Being: An Antecedent for Engagement in School Health

Allegrante (1998) identifies the school environment as a “significant opportunity to contribute to the nation’s goals for [the] promotion of health (190).” The school environment is unique in that it constitutes both a workplace for millions of school personnel and is a destination of learning and development for millions of school children. This unique dynamic yields continual and potentially meaningful engagement between school personnel, students and the health promotion resources available to them in the school setting. The CSHP emphasizes a number of topical areas to address the various health concerns of each of these groups within the school setting, with primary focus placed on student outcomes. One particular component, faculty and staff health promotion, serves a twofold purpose. It is meant not only to improve employee health,

well-being and job performance, but is also considered an important factor that indirectly impacts student health and well-being. It has been suggested that encouraging the “adoption of healthier lifestyles... [is] beneficial to [faculty and staff] as well as to academic programs and the total health environment of the school (Drolet & Fetro, 1991, 76).” Faculty and staff health promotion is thus considered an impetus to not only endorse personal wellness, but is important as a viable antecedent for the implementation of successful and comprehensive student health initiatives. Yet, the link between school personnel personal interest and competence in their own health and its relationship to their perception as healthy role models has not been thoroughly investigated.

Research regarding school personnel health and wellness is relatively limited compared to other CSHP components. Conclusions on the health status and effectiveness of school personnel worksite wellness programs have too been controversial. However, the need for and benefits of worksite wellness programs within school settings and their possible impact on staff and student health is quite apparent. The available research presents an array of measurable benefits at both the organizational and individual level as a result of worksite health programs and healthy staff. Recently a major push for staff health promotion in school settings is the result of an increasing prevalence of preventable health risk factors, increasing insurance and healthcare costs and improvements in job performance and role modeling (Allegrante, 1998). The effort and costs associated with the “diagnosis and treatment of chronic diseases and conditions such as diabetes, obesity, cardiovascular disease and asthma” are much greater than the effort and costs to prevent them (DHHS, 2003). This is no less realized within the school environment. Prevention efforts in the form of “health-related behaviors such as, stress

management, exercise and making healthy food selections” have been found effective and highly correlated in a school setting (Gillan et al., 2014, 17). Gillan et al. (2014) found that school personnel who engaged in the highest rates of physical activity also made the most healthful food choices as well as managed stress most effectively. Haines et al. (2007) uncovered anthropometric, physiological and psychological improvements in health after the implementation of a faculty and staff “Virtual Walking and Wellness Program.” Most surprisingly, participants reported “increased health awareness,...increased physical activity and the initiation of health care to manage” personal health-related concerns (Haines et al., 2007, 224). These findings suggest that school personnel health behaviors may be “packaged” as a lifestyle rather than toward any singular health-related behavior. Haines et al. (2007) also noted “increased work productivity and decreased work absenteeism with improvements in health status,... that... indirectly provided financial gains to the employer (Haines et al., 2007, 224).” In a meta-analysis by Anderson et al. (2009) of worksite wellness programs in general, employee participants yielded an overall net weight loss of 2.8 pounds and a net loss in BMI of 0.47. Anderson et al. (2009) also revealed economic benefits to employers in the form of cost-effectiveness ratios ranging from \$0.59 to \$4.16 in medical care cost savings per pound of lost body weight. Findings by Gillan et al. (2014), Haines et al. (2007) and Anderson et al. (2009) provide promising directions for staff health and wellness initiatives and purport the potential health, economic and performance-based incentives for encouraging staff health and wellness in schools as well as hint at its indirect influence to the broader school health environment.

Worksite health promotion was included in the original CSHP model due to its expected positive effects on school employees and the school environment. The true purpose of wellness programming in worksites is “to facilitate behavioral change and maintenance, emphasizing optimal health (Rogers, 2006, 442).” Luckily, school sites are tremendous opportunities to foster health and wellness because they have professional resources (administrators, school nurses, counselors, psychologists, physical and health educators) and facilities (gymnasiums, weight training rooms, sport fields) available to successfully implement health prevention and intervention programs (Allensworth & Kolbe, 1987). Top down support by school leaders and administrators is a considerable requisite to fostering a culture of staff health at the institutional level. In a study by Cox, Misra, and Aguillion (1997), it was determined that many superintendents acknowledged some level of implementation or need for staff health promotion programming in their schools (smoke-free grounds, healthy cafeteria menus, etc.), and relied heavily on “perceptions of program quality, worth and necessity” to make decisions to support them (54). Similar findings by Melo, De Moura, Aires and Cunha (2013) identified school board and administrative support for wellness programming in the form of policy and funding as conducive to “implement[ing] health in the school (6).” Administrative support for health and wellness is best conveyed to employees when it is emphasized as a priority within the culture of the organization (Falck & Kilcoyne, 1984). A culture of health and wellness is best perceived by employees as a priority when the organization takes a multi-level approach to deliver its message (Linnan, Sorensen, Colditz, Klar, & Emmons, 2001). A combination of informational (i.e. health-related professional development), behavioral (i.e. offering smoking cessation or nutrition courses) and

environmental (i.e. offering more healthful cafeteria food choices) strategies may prove most helpful when encouraging employees to improve their health status in the workplace (Gillan et al., 2007) “For example, it might be hypothesized that an individual who is motivated to participate (e.g., intrapersonal level), has coworkers who encourage him or her to participate (e.g., interpersonal level) and works in a company that gives him or her time off to participate (e.g., institutional level) will be more likely to participate” in faculty and staff health programs, as well as healthy behaviors in general, than someone without these influences (Linnan et al., 2001, 593). Rogers (2006) also stressed the inclusion of school health professionals who have the skills and knowledge to effectively communicate, assess, plan, conduct and evaluate quality staff health programs. The school nurse, for instance, is in a unique position and may be expected to perform knowledgeable needs assessments, engage in productive planning, serve as an access to a number of community health resources and effectively evaluate implemented programs (Ryan, 2008). Similarly, environmental resources in the form of after-hour access to physical activity equipment, facilities, nutritious cafeteria offerings and supportive health policies are key to easing barriers to healthy behaviors (Wechsler et al., 2000). The school’s social-organizational climate, including collegiality, integrity and the supportive nature of school personnel toward one another, has proven influential to participation in healthy behaviors as well, specifically to fruit, vegetable and low fat food consumption (Cullen et al. 1999). High levels of administrative support and the provision of resources, like health professionals, access to equipment and facilities and encouraging environments, play a pivotal role in defining schools as a quintessential wellness

opportunity. It also sets the stage for satisfying the first prerequisite for a healthy and successful school environment, a healthy teacher (Schneider, 1950).

Unfortunately, despite the benefits of wellness programs and available support for them, many educational personnel fail to meet recommended criteria for good health and fail to partake in healthy behaviors. According to Blair, Tritsch, and Kutsch (1987) “faculty and staff of most school districts have health problems similar to the rest of the population (469).” Available research has revealed that school personnel commonly present health risk factors associated with obesity, depression, food consumption and other preventable unhealthy behaviors. Alker, Wang, Pbert, Thorsen, and Lemon (2015) assessed the health of educators in Massachusetts and uncovered that approximately 65% of the sample was overweight or obese, nearly 22% had depressive symptoms and 6.7% were self-proclaimed smokers. In southeastern Louisiana, female elementary school teachers exhibited “very low levels of physical activity and...adverse cardiovascular risk factors at all ages (Webber et al., 2012, 415).” In a similar southeastern Louisiana sample it was determined that elementary school teachers had “high rates of obesity and consume too much fat and too little fiber” as part of a school-based nutritional analysis (Hartline-Grafton, Rose, Johnson, Rice, & Webber, 2009, 1554). Early education Head Start staff in Pennsylvania displayed greater prevalence of headaches, low back pain, obesity, asthma, high blood pressure, diabetes and overall fair or poor health status compared to a national sample (Whitaker, Becker, Herman, & Gooze, 2013). Furthermore, the assessment of efforts to address faculty and staff health issues in some school samples has been underwhelming (Wechsler et al., 2000). Resnicow et al.'s (1998) review of the TeachWell nutrition intervention found “inadequate teacher participation in the wellness

program” and no significant difference in teacher outcomes associated with healthy eating (255). Hartline-Grafton et al. (2009) noted that “compliance was particularly poor for fruits, vegetables, whole grains, and milk” consumption in the pre- versus post-intervention nutrition practices of overweight and obese school personnel in Louisiana (1554). Siegel, Prelip, Erausquin and Kim (2010), despite promising findings, were unable to associate a slight improvement in body mass index (BMI) values to physical activity and nutrition interventions in a sample of Los Angeles school personnel. Possible reasons for unfavorable findings in these interventions included explanations such as low intervention participation rates, limited length of program implementation and demographic limitations. In total, these findings reinforce the need for continued worksite health promotion efforts in schools and further study to determine what factors may be important to encourage and sustain school personnel participation in health behaviors, wellness programming and how they relate to engagement in student well-being. Most consistent amongst available literature is that teachers who exhibit poor health and fail to partake in healthy behaviors both individually and in the school environment jeopardize their ability to serve as healthy role models for students and may inhibit the implementation of student health initiatives (Hartline-Grafton et al., 2009; Wechsler et al., 2000).

Characteristics Associated with Staff Health and Wellness

General research in the area of employee health status and worksite health and wellness is quite plentiful. Reasons for employee participation or non-participation in wellness programming and healthy behaviors include a few key elements, but are otherwise only slightly varied based on type of work, type of employee and type of

wellness programming (Anderson et al., 2009; Fletcher, Behrens, & Domina, 2008; Kaewthummanukul & Brown, 2006). Das, Rinaldi-Miles and Evans (2013), using a sample from a large university, reported that employees in higher education settings experience the same health benefits and struggle with the same health barriers as other worksite populations. This finding indicates that despite limited research in primary school personnel health and wellness specifically, researchers may be able to usurp effective practices and recommendations from the broader worksite wellness literature to encourage a heightened interest in school personnel for their own health as well as the health of their students. For many of the similar purposes in schools, wellness programs have been established in worksites to curb preventable health maladies, improve employee well-being, improve worksite performance and reduce healthcare costs (Rongen et al., 2014). The rationale for worksite wellness programming in schools is unquestioned with the main dilemma centering on improving employee health status, program effectiveness and indirect positive contributions to the school environment as a matter of employee characteristics and environmental attributes.

Perceived Self-Efficacy. Overwhelmingly recognized as an influence associated with participation in worksite wellness and health behaviors is one's perceived self-efficacy (Kaewthummanukul & Brown, 2006). In a meta-analysis by Kaewthummanukul and Brown (2006), it was determined that perceived self-efficacy was the most often cited and strongest predictor for engagement in physical activity (as well as other health promoting behaviors in select studies) across six separate worksite wellness studies. Bandura (1982) describes the encompassing concept of perceived self-efficacy as “a generative capability in which component cognitive, social and behavioral skills must be

organized in integrated courses of action (122).” Perceived self-efficacy is derived through a number of mediums: performance attainments, viewing the success of others, persuasion, knowledge and social cues, and can cultivate heightened levels of intrinsic interest and durable behavior (Bandura, 1982). Further, perceived self-efficacy serves a distinctive purpose in the general initiation of action and has been cited prominently instrumental to employee engagement in healthy behaviors and worksite wellness programs (Anderson et al., 2009; Bandura, 1982; Das et al., 2013; Fletcher et al., 2008; Kaewthummanukul & Brown, 2006). Perceived self-efficacy, “or one’s belief in his or her own ability to perform a certain behavior” is highly associated with health behavior change as well as persistent participation in health behaviors (Anderson et al., 2009; Bandura, 1982; Das et al., 2013; Fletcher et al., 2008; Kaewthummanukul & Brown, 2006, 423; Silvia, 2003; Smith, Wallston, & Smith, 1995; Strecher, Devellis, Becker, & Rosenstock, 1986).” In a five-year study regarding worksite wellness programming, Blake, Zhou and Batt (2013) found that “active respondents reported greater self-efficacy for physical activity than less active respondents (264).” Alternatively, deficits in self-efficacy for non-active or low-active respondents have centered much on the lack of knowledge about how to engage in certain health behaviors, the lack of knowledge about the health behavior itself and self-consciousness and insecurity about engaging in health-related behaviors (Das et al., 2013; Fletcher et al., 2008). Each of these characteristics may be reflective of a fundamental lack of self-efficacy for healthy behaviors and in turn a lack of interest and perceived ability to participate in them (Fletcher et al., 2008).

One’s perceived capability and their interest to participate in an activity are linked. Individuals are “frustrated by difficult tasks,” however, “any task can become

interesting if its difficulty matches the person's ability (Csikszentmihalyi, 1975 as cited by Silvia, 2003, 239)." Tauber (1973) addressed the dynamic of interest as a precursor to action and later, as a factor for the adoption of persistent behaviors if particular actions are satisfying through enactive participation. The relationship between these concepts, according to Bandura (1982), is that "interest grows from satisfactions derived from fulfilling internal standards and from perceived self-efficacy gained from performance accomplishments (133)." Improvement in self-efficacy in a particular activity, therefore, is related to the development of an enduring and intrinsic interest to engage in that activity (i.e. knowledge or understanding of health) (Bandura, 1982).

Personal Interest. Many times, worksite wellness opportunities as well as school health initiatives are ineffective due to a lack of interest in the topic of health or a lack of interest to participate in healthy behaviors by employees (Melo et al., 2013; Newman et al., 2015). Interest exists in two primary states. According to Schiefele et al. (2013), interest can be described in temporary, situational terms or as "a relatively permanent attraction to certain types of topics (11)." Situational interest is dependent of an existing personal disposition toward a particular subject or object and is derived as a short-term, stimulus induced interaction between an actor and their environment (Krapp, 2002; Schiefele, 1991). Referent to Barker's (1968) ecological psychology, situational interest would be actualized when a behavioral setting (and the participants in it) elicits, at minimum, momentary attention from the actor. Within behavioral settings, the importance of "grabbing attention" (of both teachers and students) may "relate to the development of interest, both immediate and enduring, and in turn, other adaptive learning outcomes," such as competence and engagement (Linnenbrink-Garcia et al.,

2013). In relation to health and wellness programming, Busbin and Campbell (1990) point out that “grabbing the attention” of staff is a first step to increasing participation in and, in the long run, maintaining positive health behaviors. “Once interest is maintained, repeated engagement can either be self-initiated or promoted by the environment, leading to the development of first an emerging and then well-developed individual interest (Renninger & Hidi, 2011, 170).” In worksites, an environment that adequately builds individual interest and enables health and wellness from multiple vantage points (interpersonal, organizational, etc.) puts faculty and staff in a progressively comfortable position for participation in healthy behaviors (Linnan et al., 2001; Vansickle, Hancher-Rauch, & Hicks, 2010). “Individual interest, is interpreted here as the relatively long-term orientation of an individual toward a type of object, an activity, or an area of knowledge (Schiefele, Krapp, Prenzel, Heiland, & Kasten, 1983; Schiefele, 1991, 302).”

Individual interest is representative of two specific and distinct characterizations: value-related valence and feeling related valence (Krapp, 2002; Schiefele et al., 2013). “Value-related valence beliefs refer to the personal significance of an object (e.g. its relevance for personal self-fulfillment), whereas feeling-related valence beliefs represent the link between an object and the occurrence of positive emotions (e.g. enjoyment) (Schiefele et al., 2013, 11).” These characterizations are considered intrinsic to the actor and many times are derived and occur in concert with supportive human-environmental interactions (Schiefele et al., 1983, Schiefele et al., 2013; Schiefele, 1991). Individual interest is typically content-specific, with greater orientations toward unique subjects or activities, such as a healthy lifestyle, physical activity or healthy eating (Krapp, 2002; Schiefele, 1991). Concepts of interest have also been adequately assessed using general

domains, such as math (i.e. broad subjects and activities) (Kunter et al., 2011). Broadly defined, individual “interest represents a more or less enduring specific relationship between a person and an object [or subject] in his or her ‘life space’ (Lebensraum; cf. Lewin, 1936 *as cited by* Krapp, 2002, 387).” An individual who develops and maintains such an enduring relationship with a particular topic is more apt to identify with and participate in activities associated with the topic. Thus, an individual who is interested in health may be more likely to want to learn about health, to participate in health-related behaviors and be attracted to engaging others in their topic of interest.

One practical notion of individual interest is that it can serve a motivational purpose (Renninger & Hidi, 2011). In their review of interest literature, Renninger and Hidi (2011) identified “interest to be a critical cognitive and affective motivational variable that guides attention, facilitates learning in different content areas... and develops through experience (169).” The development of individual interest occurs in increasingly powerful iterations of internalization and identification where genetic factors, personal satisfaction, social appraisals and environmental circumstances reinforce one’s value in and emotional experiences with a topic or activity over time (Krapp, 2002). In Krapp’s (2002) view, throughout this process, individuals must simultaneously hold a connection with their topic of interest and experience positive emotions appurtenant to that topic in order to develop an optimal level of interest. The materializing “interest-based action has the quality of intrinsic [as well as self-regulated extrinsic] motivation (Deci & Ryan, 2002; Krapp, 2002, 389).” Intrinsic motivation is a strong predictor of behavior and “is defined as the doing of an activity for its inherent satisfactions...[where a person] is moved to act for the fun or challenge entailed [in an

activity] (Ryan & Deci, 2000, 56).” Vansickle et al. (2010) assimilates fun, or enjoyment in a healthy activity, as a crucial component of a successful worksite wellness program as well as to one’s overall adherence to healthy behaviors (Young, 2005). Cox, Miller and Mull (1987), in a sample of elders, found relationships between intrinsic motivations for health behavior and a lower prevalence of smoking and tranquilizer use. Behavior in this population is suggested to have been the result of an inherent interest and a personal enjoyment associated with healthful living. Self-regulated extrinsic motivation is self-determined as a matter of internalization and identification with an activity, yet “is done for its presumed instrumental value to the actor with respect to some outcome that is separate from the behavior (Krapp, 2002; Ryan & Deci, 2000, 62).” An example of self-regulated extrinsic motivation in the school health context would be a teacher interested and motivated to engage in health related behaviors to satisfy his or her status as a healthy role model for students (Heidorn, 2013). The motivational qualities associated with each of these concepts are strong indicators for action and may be determinative of an individual’s immediate and prolonged engagement in health-related behaviors. In addition, each is described as thoroughly self-determined and closely related (Ryan & Deci, 2000). Pertinent to this inquiry, the concept of interest as a stepping stone to action within the school setting may help further improve health-related programming, the health behaviors and the roles of teachers and its indirect impact on the health of students.

In the educational setting, individual interest has been closely-related to teacher effectiveness and effort as well as “positively linked with student motivation and learning (Long & Hoy, 2006, 312).” In teachers, concepts of interest are associated with three specific components: cognitive, affective and conative (Long & Hoy, 2006). The

aforementioned value-related valence and feeling-related valence factors associated with interest have been coined as cognitive-related connections (fact-based) and affective-related connections (emotion-based) to both specific school subjects (e.g. physical education) and broad domains (e.g. health) (Kunter et al., 2008, Kunter et al., 2011; Long & Hoy, 2006). These elements are distinctly and simply separated by one's contextual knowledge of a particular topic versus one's excitement associated with a topic itself as well as conveying such knowledge outwardly (Kunter et al., 2008; Long & Hoy, 2006). The conative factor is linked to one's interest in a certain topic and the effort exerted toward engagement in activities related to the topic (Long & Hoy, 2006). Surprisingly, effortful engagement is also related to one's interest, motivation and self-efficacy for carrying out particular tasks (Bandura, 2001; Long & Hoy, 2006; Ryan & Deci, 2000; Silvia, 2003). Of these elements, Kunter et al. (2008) related the affective component, or enthusiasm, as substantively relevant to the teaching profession and its positive outcomes within the school setting. Overall, such "displays of enthusiasm [or otherwise considered as the feeling-related component of interest] are broadly considered an important feature of the teaching [and] learning process (Kunter et al., 2008)." Patrick, Hisley, and Kempler (2000) assessed measures of enthusiasm and found positive associations with student intrinsic motivation and vitality related to the material delivered by teachers. Practically, it "means that a student's intrinsic motivation [has the potential to] be facilitated through the mere perception that the teacher is [inherently interested and] intrinsically motivated" by a particular subject (Patrick, Hisley, & Kempler, 2000, 219). Limited research has addressed the relationship between the opportunity available to

teachers and other school personnel, in general, to develop a deep interest in health and the enthusiastic encouragement of health-related behaviors to students.

The school setting is ripe for developing and supporting staff interest in personal and school health topics. Ryan and Deci (2000) suggest, holistically, that “environments [such as the school setting] can facilitate or forestall intrinsic [and extrinsic] motivation by supporting versus thwarting” personal needs and competencies (self-efficacy) (59). The valuable resources available within schools (i.e. facilities, equipment, health professionals, etc.) and policies and programming to match can make the school setting conducive to piquing interest, keeping interest and using interest to drive school staff health behaviors as a foundation for a healthy school environment (Kunter et al, 2008; Hoy & Woolfolk, 1993). Better understanding the coalescence of one’s interest and perceived capabilities for health issues as antecedents for engagement in the promotion for student health is unfounded, but important. Not only will such an assessment gauge teacher interest and efficacy for personal participation in health behaviors, but it may also serve to justify the indirect point of emphasis that staff health and well-being is essential for the promotion of student health (Allegrante, 1998). Within this framework, teachers are both influenced and serve to influence the school health environment through their inherent interest and ability to engage in their own health and to promote student health.

Assessing the intertwining concepts of interest and personal competence in health-related behaviors aligns well with previous assertions that engagement in student health can be fostered through the development of a personal interest and competence in one’s own health (Allegrante, 1998). On a personal level, Smith, Wallston, and Smith (1995) determined that a combination of interest and competence or “either high relative

health value (similar to personal interest in health) or high perceived health competence were sufficient to produce greater intentions [for healthy behaviors] than was associated with the absence of both factors (60).” Further, interest and competence in one’s own health behaviors has been theorized by Yager (2011), Fahlman, Hall and Gutuskey (2013) and O’Loughlin, Renaud, Paradis, & Meshefedjian (1996) as a deciding factor in one’s competence to promote healthy behaviors in students. Yager (2011) found that pre-service teachers who successfully engaged in personal health and wellness programming experienced “an increased appreciation for the difficult nature of behavior change, and the importance of personal wellbeing in enabling them to be good [health] teachers” in the future (Yager, 2011, 120). Vicarious experiences associated with healthy behaviors were chiefly tied to personal “improvements to [first-hand] knowledge about [and interest in] the content area, or [learned] skills that [teachers] could use to encourage their students to improve their own well-being (Yager, 2011, 120).” Fahlman, Hall and Gutuskey (2013) “proposed that intentions [to encourage health] are influenced by a person’s attitude about a matter (cognitions or personal disposition and interest), as well as his perception of his capacity to successfully complete the behavior; thus increased self-efficacy is a logical precursor… to [an] intent to teach [about health].” O’Loughlin et al. (1996) evaluated the impact of teacher health screenings for cardiovascular disease (CVD) and uncovered that exposure to screening information piqued interest in CVD risk factors, enhanced participation in physical activity and supported teacher perception as role models for heart-healthy behaviors.

Learning more about the interaction between personal competence for health behaviors and interest in health is essential to identifying improved methods for

promoting student health and endorsing teacher health behaviors. The necessity to better understand personal health self-efficacy and interest as antecedents to teacher roles within the school health environment is critical to the sweeping, effective implementation of student health initiatives within CSHP and similar frameworks. Uncovering relationships between these factors may not only shed light on school staff role perceptions within school health, but may also present opportunities for future research regarding the effects of school personnel health and role status on issues related to CSHP capacity building and a more fully integrated approach to the promotion of staff and student health. One primary group that has received little attention for their potential influence on the implementation of CSHP components, support for student health and its reciprocal effect on the total school environment are teachers.

The Role of Teachers in Student Health

Teachers are a fundamental part of school health. In educational settings, teachers undoubtedly hold a degree of influence and have an ethical responsibility to serve as trusted sources for information and modeling (Paakkari & Välimaa, 2013). Many times, “teaching can easily be a reflection of the teacher’s own values [or interests] and preferences... [where] a teacher possesses power over knowledge (by manipulating or leading knowledge in a certain direction) and power over pupils (by being an unquestioned role model) (Paakkari & Välimaa, 2013).” Since “most of the behaviors that people display are learned, either deliberately or inadvertently, through” observation, a teacher’s simple actions serve as vital and reinforcing daily examples for healthy behaviors (Bandura, 1971, 5; Schee & Gard, 2014). In this position, “teacher’s can [also] foster a positive school context, and provide good modeling and social learning

opportunities” broadly when they make a concerted effort and acknowledge, in both their words and actions, their potential influence on students (Walker, 2011, 43). As a result, school personnel are in a social position to positively influence the health of students (Wechsler et al., 2000) as well as consciously acknowledge a responsibility for student health (Jourdan et al., 2010; Mazzer & Rickwood, 2013; Reinke et al., 2011). Across a variety of studies, the responsibility for student health has been articulated in terms of a number of health domains (i.e. mental health, physical activity, nutrition) (Castelli et al., 2013; Hartline-Grafton et al., 2009; Jourdan et al., 2010; Mazzer & Rickwood, 2014; Reinke et al., 2011).

Best practices suggest that school personnel, most importantly teachers, be intricately woven into the framework of the school health environment (U.S. Department of Health and Human Services, 2013). In a sample of state education agencies and school districts, 72% of respondents “considered creating an environment in which faculty and staff serve as “healthy” role models for students” as a planning priority for CSHP implementation (Eaton et al., 2007, 563). The ultimate responsibility for school-based health promotion in these circumstances, however, usually defaults to a the school nurse, an interested administrator or a health or physical education teacher (Maras et al., 2014; McKenzie, 1988). These individuals are regularly deemed best equipped for “carrying the torch” for a healthy school environment. Students, families and other staff members look to these specialized individuals as pinnacles of health due to their enhanced health knowledge or status in the organization (Jourdan et al., 2010). Unfortunately, these individuals may not be in a position to adequately maintain and monitor school-wide health at all times.

To best cater to the needs of a large student and staff constituency, primary school health professionals must rely on the entirety of involved and capable faculty and staff to serve as “first responders,” implementers and supporters for basic student mental, social and physical needs (Berzin et al., 2011). As exemplified, Reinke, Stormont, Herman, Puri and Goel (2011) reported that teachers perceive themselves as having primary responsibility for implementing and administering basic mental health interventions within their classrooms, but relied on the more knowledgeable school psychologist for most other mental health services. Berzin et al. (2011) describe school staff, based on organizational policies and personal preferences, as belonging to distinct “collaboration profiles.” Within collaboration profiles teachers serve roles, in conjunction with school health professionals, ranging from altogether non-collaborators to actively empowered health enthusiasts that take on roles as primary (mental) health service providers in addition to their regular employment duties (Berzin et al., 2011). As primary providers, teachers are encouraged to promote healthy lifestyles, monitor and address basic health issues and act as a trusted referral when situations inch beyond their scope. Jourdan et al. (2010) used qualitative techniques to reveal “varied perspectives of participants’ contribution to health education” in schools, ranging from no contribution to having a significant contribution (Jourdan et al., 2010, 523). Mazzer and Rickwood (2013, 2015) applied McAllister et al.’s (2007) role perception model, based on concepts from Organ’s (1997) *organizational citizenship behavior*, to the school health setting. Mazzer and Rickwood (2013, 2015) uncovered a comparable continuum of teacher and coach engagement in student health based on four basic concepts: role breadth, role efficacy, role instrumentality and role discretion (McAllister et al., 2007). Teachers and coaches

who exhibited a role breadth that included student health, felt capable of promoting student health behaviors and “perceived a relationship between performance of [health promoting] behaviors and outcomes such as rewards and punishment” were more likely to engage in behaviors that were supportive of student health (Mazzer & Rickwood, 2015, 2; McAllister et al., 2007). The continuum highlighted by Berzin et al. (2011), Jourdan et al. (2010) and Mazzer and Rickwood (2013, 2014, 2015) hints to the current and global variation of teacher and other school staff roles associated with student health. Also of importance is that teacher roles are ecologically complex, often shaped through various intrapersonal, interpersonal and environmental influences (Thornton & Nardi, 1975). Further understanding the teacher role continuum within the school health context as well as why such perceptions are acquired and how they are supported is important to improving a school’s capacity and reach for the broad-based implementation of organizational student health initiatives (Parcel et al., 1988).

Teacher Role Acquisition and Contextual Performance

The influence teachers have on student behaviors as role models is dictated by “the way individuals define their role” and how such a role orientation is acquired (Parker, 2007, 403; Thornton & Nardi, 1975). Role acquisition and orientation “involves interaction between individuals and external expectations (Thornton & Nardi, 1975, 873).” Employees often obtain expectations through their own observations, social norms, formal education, explicit job requirements and as a matter of vicarious experience (Bandura, 1971; Thornton & Nardi, 1975). Using these mediums, teachers frame a cognitive perception of what their role is and what it means within the context of the school environment (Mazzer & Rickwood, 2015; Parker, 2007). The perception of

these roles then serve as a mechanism to influence individual task and overall job performance (Borman & Motowidlo, 1997; Organ, 1997; Parker, 2007). While most school employees are “mere recipients of expectations” according to the organizational and explicit requirements associated with their job, school health, in some cases, is considered “beyond the job (Maras et al., 2014; Organ, 1997; Thornton & Nardi, 1975, 871).” “Beyond the job” behavior is unique in that it can be perceived by employees in two ways. Either the individual considers a “beyond the job” task as outside of formal expectations, but as part of his or her “unwritten” job responsibilities or as something that is distinctly “not my job (Morrison, 1994; Organ, 1997; Parker, 2007).” Organ (1997) originally characterizes “beyond the job” expectations using the concept of *organizational citizenship behavior* (OCB), which entails discretionary behavior “not directly... recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization (Organ, 1988, 4 as cited by Organ, 1997).” Organ (1997) later clarifies OCB using Borman and Motowidlo's (1997) concept of *contextual performance* where it is “not require[d] that the behavior be extra-role or nonrenewarded,” but rather “that it contribute to the maintenance and/or enhancement of the context of work (90).” As translated, a teacher's decision to engage in behaviors that support student health, whether explicitly defined by job expectations or not, is a factor of whether the teacher believes the actions are part of his or her job and that participation in such behavior contributes to enhancement of the school environment (Parker, 2007; Walker, 2010). The carrying out of these behaviors is based not necessarily on the explicit definition of the role, but more so on employees’ “different beliefs regarding what their role is about (Parker, 2007, 404).” The perceived roles undertaken by teachers

in the student health context ultimately flourish or are limited via one's role orientation toward their perceived responsibility for student health as determined through a combination of intrapersonal, organizational and environmental factors.

Role perception is an encompassing concept related to what tasks individuals define as part of their job, how flexible they are in performing those tasks and how they approach those tasks (i.e. passively, proactively, etc.) (Parker, 2007). Inherent to role orientation (specifically within the concepts of OCB and contextual performance) is the concept of role breadth, or whether an individual considers a task as in-role or extra-role (Morrison, 1994). In-role expectations are responsibilities that employees consider as part of their organizational duty that are both formally defined or informally inherited over time (Morrison, 1994; Thornton & Nardi, 1975). Employees who consider responsibilities as in-role are more likely to carry them out and are more likely to consider them as relevant to both personal and organizational health and performance (Borman & Motowidlo, 1997; Morrison, 1994; Parker, 2007). McAllister et al. (1997) concluded role breadth as the most important role perception factor in predicting OCB engagement in a sample of oil refinery workers. In addition to role breadth, the likelihood that employees will consider a responsibility as in-role is also related to whether they feel capable, or *self-efficacious*, at performing the task (McAllister et al., 1997).

In-role responsibilities in combination with self-efficacy are often associated with external and internal reinforcement contingencies (i.e. success at carrying out the behavior, positive social appraisals, etc.) that help motivate employees to engage in certain behaviors (Morrison, 1994). The known and valued extrinsic or intrinsic outcomes associated with role performance that motivate an individual to partake in an

in-role task is known as *instrumentality* (McAllister et al., 2007). Mazzer and Rickwood (2015), in a sample of Australian teachers and coaches, identified task self-efficacy and instrumentality as the primary exogenous variables in path analysis models associated with health promotion, prevention and intervention efforts. Though a distinct and important component, instrumentality is presented within OCB as primarily an extrinsically motivating concept (McAllister et al., 2007). Extrinsic motivating factors are quite varied and in many cases “represent impoverished forms of motivation” that lack durability and enthusiasm and are not required as a measure of optimal contextual performance (Borman & Motowidlo, 1997; Ryan & Deci, 2000, 55). For the purposes of this inquiry, instrumentality will not be considered as a role perception outcome, but rather reflected as an intrinsic or self-regulated extrinsic form of motivation through the antecedent of personal interest (Krapp, 2002; Ryan & Deci, 2000).

The final concept noted by McAllister et al. (1997) and Parker (2007) as vital to employee role perceptions is *role discretion*. Role discretion is defined as the level of autonomy that an individual feels he or she has to engage or not engage in a specific work-related behavior (McAllister et al., 2007; Morgeson et al., 2005; Parker, 2007). Parker (2007) identified autonomy as the strongest predictor related to work performance in a sample that included a variety of job types (i.e. managers, accountants, secretaries). Morgeson, Delaney-Klinger and Hemingway (2005) found that role discretion successfully predicted role breadth “because greater discretion enables individuals to integrate more job aspects into their role (399).” Despite such findings, Mazzer and Rickwood (2015) found no association between role discretion and engagement in health promotion and intervention behaviors in teachers and coaches. In educational settings, a

teacher's discretion to influence student health can range from formalized, purposeful inclusion to the informal sharing of personal "interests in certain sports or activities... [or telling] students about their own health goals... [and showing] them how they plan to achieve their goals (Yaussi, 2005, 106)." Given the focus of the current study, the intent is not to assess a teacher's discretion to engage in certain behaviors, but instead to unearth whether personal interest and competence in health are associated with whether one considers it as part of their job and whether he or she feels able to undertake it. The mixed findings concerning the individual components of role perceptions across a number of work environments and the overall limited research available regarding role perceptions by teachers warrants continued inquiry. In all, these influences frame not only the perception that school personnel may have of themselves as actors within the school health environment, but also the perceptions made by students, other staff members and external constituents. Pinpointing what factors lead to broader role orientations toward engagement in health promoting behaviors by teachers is imperative to improving and maintaining healthy school environments.

Various factors impact whether student health is considered part of the school employee's responsibility; non-inclusive job requirements (Mazzer & Rickwood, 2015), a "lack of proper training and necessary instructional resources for teachers (Fahlman et al., 2011, 182)," a lack of interest in school health-related issues (Melo et al., 2013), a lack of administrative buy-in to promote a healthy school environment (Cox et al., 1997) and a lack of teacher efficacy to promote healthy lifestyles and address adverse health issues in students (Weston, Anderson-Butcher, & Burke, 2008). Teachers who fail to take on roles that contribute to student health are limiting to the collective delivery of healthy

role modeling, education and promotion in schools (Castelli et al., 2013; Lohrmann, 2008; Maras et al., 2014; Parcel et al., 1988). A disjointed effort where not all teachers and other school staff are willing, prepared and ready to promote student health is therefore contrary to the core foundation of the successful implementation of CSHP and other student health initiatives. In order to combat this effect, teachers should “be positioned [and encouraged] to collaborate with [students], parents [and other constituents] in creating healthy behaviors” and, more generally, healthy school environments (Walker, 2010, 43). The ways and means of empowering teachers to meet these expectations have been addressed via enhanced pre-service education (Clark, Brey, & Clark, 2013; Fahlman et al., 2013; Jourdan et al., 2008; Yager, 2011), in-service professional development (Drolet & Fetro, 1991; Fisher et al., 2003; Sherwood-Puzzello, Miller, Lohrmann, & Gregory, 2007), as organizationally defined instruments of school health policy (Schee & Gard, 2014) and through increasing knowledge and competency in a teacher’s own health (Allegrante, 1998; Resnicow et al., 1998; Wechsler et al., 2000; Yager, 2011). Pre-service learning, in-service training and school health policy have been a primary focus for researchers, however, additional assessment on the more nuanced intrapersonal effects of a teacher’s increased personal knowledge and competency for health and its contribution to the school health environment is needed (Murray et al., 2007). It is presumed that an improved interest and competence in personal and school health-related topics, in addition to external factors, may help provide personal connections with and encourage school staff to more thoroughly consider student health as part of their organizational role (Berzin et al., 2011; Yager, 2011).

Chapter III

Methods

The purpose of this inquiry was to further understand how personal interest and competence for health may be formed and how each relates to teacher role perceptions as supporters for student health. In addition, the study included measures concerning the relationship of these factors to the availability of health and wellness opportunities in select school districts. The procedures section is intended to describe the methods used to address the stated research questions and hypotheses in Chapter I. The following Chapter will outline targeted subjects, methods for sampling, the characteristics assessed from subjects, the instrumentation utilized for the inquiry and the expected treatment of the data.

Sample

Subjects. Subjects for this study included both elementary and secondary teachers in all subjects, from school districts in the state of Missouri. A variety of school districts were targeted as a result of convenience and in an effort to enhance individual variability where it is expected that some teachers may take on greater roles across a broader school sample (Hoyle et al., 2008). Following recommendations from Clark, Brey, and Clark (2013), “limited empirical evidence is available regarding the existence of... scales” to assess health education and promotion knowledge and engagement in specific teacher

samples. In addition, to establish a well-rounded and efficacious model for school health, a variety of implementers, including teachers in general, must be involved (Parcel et al., 1988). The sample was somewhat broad given these suggestions and limited research in this area overall. In the future, further research may be carried out to identify more nuanced associations between specific teacher, grade level or district samples and other variables included in this study.

Recruitment of Subjects. To obtain a sample, the researcher personally contacted (via electronic mail) targeted school districts. School district contact information was obtained using publically available contact information from the Missouri Department of Elementary and Secondary Education website (<http://dese.mo.gov>). Methods for breaching contact with school districts and obtaining permission mirrored those recommended as “*School-Based Research Procedures*” noted by the MU Partnership for Educational Renewal (MPER) (University of Missouri College of Education, 2015). A formal request for permission to engage in research at the institution was provided to the district and a brief proposal explaining the purpose of the inquiry accompanied the request. Permission from participating districts was obtained via formal correspondence from applicable school district personnel. Once granted, relevant materials, including formal correspondence from participating districts, was submitted to complete the IRB approval process. The proposal and request for permission to engage in research is included in Appendix I.

Sample Size. “In planning research, deciding the sample size is crucial (Cohen, 1992b).” In order to limit statistical error and to satisfactorily meet the goals of the study, it was pertinent to determine an appropriate sample size prior to data collection (Kelley,

Maxwell, & Rausch, 2003). The estimation of an appropriate sample size, given a particular statistical method, can be accomplished through power analysis (Cohen, 1992b). Power analysis “exploits the relationships among four variables involved in statistical inference: sample size (N), significance criterion (α), population effect size (ES), and statistical power ($1-\beta$) (Cohen, 1992b, 156).” Cohen (1992b), given that “it is typically more serious to make a false positive (type I error),” suggests a significance criterion of $\alpha = .05$ and power of .80 as standard for sample size estimation (100). This recommendation suggests an approximate 4 (i.e. 20% chance that the researcher will accept a null hypothesis when it is in fact false) to 1 (i.e. 5% that the researcher will reject a null hypothesis when it is in fact true) likelihood for type II errors (false negative), however it is considered a “reasonable reflection of their relative importance” as a matter of effective data analysis in the social and behavioral sciences (Cohen, 1992b, 100). ES is “indexed by the discrepancy between [null] and [alternative]” hypotheses (Cohen, 1992a, 156). It is representative as the predefined magnitude of effect between variables (Cohen, 1992a, 1992b; McDonald, 2014). According to Cohen (1992a), an appropriate ES range for correlational and regression based inquiries in the behavioral sciences should fall between .02 (small effect) and .35 (large effect) (Faul, Erdfelder, Buchner, & Lang, 2009). Most typically, a medium, predefined effect of .15 is considered standard for satisfactory sample estimation (Cohen, 1992a; Faul et al., 2009). For the purposes of this study, sample size has been estimated using the following recommendations; significance criterion of $\alpha = .05$, power of .80, and a medium ES for regression analysis of .15 (Cohen, 1992a).

To estimate sample size, G*Power, Version 3.1.9.2 was used (Faul et al., 2009). Due to the stated hypotheses in Chapter I, the proposed statistical method of sequential multiple regression was utilized. Thus, the power analysis was performed using the a priori sample size computation option for “linear multiple regression: fixed model, R^2 increases.” At most, a total of 2 predictor variables and 9 control variables were to be included in the proposed set of analyses. The minimum sample size required to detect a medium effect (.15) per the given conditions was determined at 68 total participants. To account for potential missing data, outliers and other data issues, the inquiry sought a greater minimum sample of between 80 and 100 participants.

In regards to sampling method, web-based questionnaires administered via electronic mail have been generally found to boast response rates around 20% (Kaplowitz et al., 2004; Millar & Dillman, 2011). To meet the minimum sample requirement considering such expected response rates, a minimum of 400 individuals (4-5 school districts) were contacted for participation through school districts. To promote engagement by teaching staff to meet minimum sample requirements, the opportunity for participants to obtain one of three \$50 gift cards via random selection was provided. It has been noted by Göritz (2006) that such “lottery” incentives increase the odds associated with participant engagement in web-based questionnaires. Utilizing “lottery” incentives have been shown to increase the odds of viewing a web-based questionnaire (responding) by as much as 19% and the odds of completing the questionnaire (retention) by as much as 27% (Göritz, 2006). The available incentive will be noted in the study introduction. Participants were given the option of providing personal contact information upon completion of the questionnaire to be included in the incentive

selection process. Personally identifying information was parceled from the data set prior to analysis and was not reported in the findings.

Collection of the Data

Instrumentation. All items and measures have been prior utilized in studies or are included in standard organizational questionnaires. Some of the measures were altered slightly to apply more appropriately to the context of the study. In total, the questionnaire contained eight separate sections with 107 total response items. Expected response time for participants to complete the questionnaire was estimated between 15 and 20 minutes. The complete questionnaire can be found in Appendix II.

Availability of school-site health and wellness opportunities. To assess health and wellness programming availability, this inquiry utilized the *Health Promotion Activities and Services* section of the *Faculty and Staff Health Promotion School Questionnaire – Public Use Version* of the CDC’s *School Health Policies and Practices Study of 2014* (“Faculty and Staff Health Promotion School Questionnaire,” 2014). This questionnaire is widely used and serves as part of the nationally administered *School Health Policies and Practices Study*, “periodically conducted to assess school health policies and practices at the state, district, school and classroom levels (Centers for Disease Control, 2015).” Questions center on the perceived availability of a variety of staff health and wellness activities and services offered within the school setting. Item content ranges from oral health screenings to the availability of nutrition education to the provision of discounts to join health club and weight loss programs. A total of 28 item responses were included in this section. A dichotomous yes or no response format was used to assess the perceived availability of staff health and wellness opportunities offered by the district

during the past 12 months. Affirmative responses were totaled yielding an overall health and wellness opportunity score. The health and wellness opportunity score served as a predictor variable per Hypothesis 1 and as a control variable per Hypotheses 2 and 3.

Perceived health status. Health status was assessed using a single question; “how would you rate your overall health at the present time?” Response options included poor, fair, good, very good, and excellent. For data analysis purposes, items were coded, in ascending order beginning with the perception of poor, from 1 to 5. According to Bowling (2005), “a single item [perceived health status] question can provide valuable information, it has the value of simplicity, and can be reliable and valid (343).” In support, Ware, Davies-Avery, and Donald (1978), suggest that self-rated perceptions for health, including single-item measures, have “stability [that] exceeds chance expectations” and that associations with other health-related measures represent good validity (20). Pender et al. (1990), Smith, et al. (1995), and Kaewthummanukul and Brown (2006) all found associations, through both experimentation and literature review, between health status and other personal and external indicators for health. Given that perceived health status has been considered an underlying factor related to a variety of personal health indices, the current study considered it a control variable to isolate the variance of other items. Thus, following recommendations from Smith et al. (1995), health status was “entered as the first step [in the sequential multiple regression] in order to control for any variance that could be explained simply through... health status” due to its strong relationship to health competence and other health factors (60).

Personal interest in health. The concept of interest served a twofold purpose within the context of this study. On one hand, interest serves the individual as a central

mechanism for value and feeling-related motivation as well as a “critical element in [personal] cognitive, social, and physical development (Ryan & Deci, 2000, 56; Krapp, 2002).” On the other, “research suggests that teacher interest [for a particular topic] is connected to student motivation and learning” and is a viable measure of teacher engagement and effectiveness (Kunter et al., 2011; Long & Hoy, 2006, 304). Thus, it is relevant to assess personal interest in health as both an outcome and antecedent for engagement in personal health and as an antecedent for engagement in student health. Currently, no validated scale is available to assess personal interest in health in teacher populations. To gauge personal interest in health, this study utilized an adapted version of Linnenbrink-Garcia et al.’s (2010) individual interest scale. The scale has roots in Pintrich, Smith, Garcia, and McKeachie’s (1993) *Motivated Strategies for Learning Questionnaire (MSLQ)*, which showed reasonable reliability and validity in the assessment of motivation and learning in college students. Linnenbrink-Garcia et al. (2010) designed the 8-item ($\alpha = .90$) questionnaire “to tap both the feeling and value students associated with math (659).” This study slightly altered the verbiage of Linnenbrink-Garcia et al.’s (2010) scale by substituting “health” for “math” and reworded items to read more appropriately to fit the context (health) and sample (teachers) of the study. Given limited adjustments, it was expected that this scale would perform equally to Linnenbrink-Garcia et al.’s (2010) version in terms of reliability. Each of the 8 items was scored on a 5-point likert scale ranging from 1 (not at all true) to 5 (very true). Item responses were coded from 0 to 4 and selections were summed to obtain an overall personal interest in health score for analyses. Subsequent to data screening in the current study, the adapted items showed adequate reliability ($\alpha = .896$, $n = 104$). Personal interest

in health was considered a dependent variable per Hypothesis 1 and as a second block independent variable in Hypotheses 2 and 3. Based on previous findings, a positive relationship between personal health status and personal interest in health was expected and served a priori as a presumed metric for the content validity of the newly adapted instrument.

Perceived health competence. Perceived health competence is reflective of one's self-efficacy, or ability to manage his or her own health outcomes (Smith et al., 1995). Perceived health competence as a concept has been used in a variety of studies via Smith, et al.'s (1995) *Perceived Health Competence Scale (PHCS)*. Smith et al. (1995) originally validated the measure across multiple samples and in conjunction with other health-related indicators. The measure has been considered positively related to indicators for health status (Smith, et al., 1995), lower smoking and drinking behaviors (Tromp et al., 2005), greater exercise and nutrition-seeking behaviors (Marks & Lutgendorf, 1999), and orthopedic rehabilitation outcomes (Waldrop, Lightsey, Owen Richard, Ethington, Woemmel, & Coke, 2001). The PHCS also presented satisfactory reliability in these and other studies, including samples of head and neck cancer patients ($\alpha = 0.59$, Tromp et al., 2005), orthopedic surgery recipients ($\alpha = 0.88$, Waldrop et al., 2001), older adults ($\alpha = 0.84$, Marks & Lutgendorf, 1999) and younger adults ($\alpha = 0.87$, Palfrey et al., 2005). The measure includes 8-items that boast statements such as "I handle myself well with respect to my health" and reversed scored statements like "I feel my efforts to change things I don't like about my health are ineffective." Each item is scored using a 5-point likert scale ranging from 1 (not at all true) to 5 (very true). Item responses were coded from 0 to 4 and were summed across all items to yield a single perceived health competence

score. Subsequent to data screening in the current study, the perceived health competence measure showed adequate reliability ($\alpha = .863$, $n = 104$). Perceived health competence was considered a dependent variable per Hypothesis I and as a second block independent variable in Hypotheses 2 and 3.

Role Perceptions. The concept of role breadth has been primarily linked to the overarching frameworks of *organizational citizenship behavior (OCB)* (Organ, 1997) and *contextual performance* (Borman & Motowidlo, 1997). These frameworks allude to the notion that employees engage or do not engage in a variety of behaviors within the context of their roles as employees or members of organizations. Some of these behaviors are required duties while others are more discretionary in nature (Organ, 1997). Though OCB and contextual performance include a number of elements, two items in particular, perceived role breadth and perceived role efficacy are considered good predictors for actual role task engagement. Perceived role breadth considers specifically “whether an individual regards particular activities or behaviors as part of their job (Mazzer & Rickwood, 2015, 2; McAllister et al., 2007).” Whereas perceived role efficacy “refers to employees’ perceived capability of carrying out” their perceived roles (Parker, 1998, 835). Many workplace behaviors, both formal and informal, “are important because they contribute to organizational effectiveness (Borman & Motowidlo, 1997, 100)” and serve as an employee’s personal contract to improve the organization (and the persons in it) (Organ, 1997). Morrison’s (1994) foray into perceived role breadth uncovered that each individual, even those with similar job descriptions, may perceive role breadth very differently. Parker (1998) addressed perceived role-efficacy as not only a factor of capability, but also of self-direction and initiative where employees learn to manage

themselves and are flexible within a variety of employment situations. Morgeson et al. (2005) and Parker (1998) noted factors such as education level, age and job tenure as generally accepted factors amenable to role breadth and role efficacy perceptions in employees. Role breadth and role efficacy perceptions are also reflective of personal and environmental characteristics unique to individuals and are considered distinct components relative to role perception overall (Borman & Motowidlo, 1997; McAllister et al., 2007; Thornton & Nardi, 1975). In teachers, role breadth and role efficacy have been shown to be effective predictors for the engagement in student mental health promoting behaviors (Mazzer & Rickwood, 2015). Despite this finding though, many of the factors that contribute to teacher role perceptions for student health, especially as general constructs, remains unknown. In addition, methods and instruments to assess such variables are equally as sparse.

Perceived Role Breadth. Unfortunately, no generalized perceived role breadth scale regarding engagement in health behaviors for the teacher population is available. To assess role breadth in teachers for student health, this study utilized response option techniques from Morrison (1994) and McAllister et al. (2007) and items primarily from Kingery, Holcomb, Jibaja-Rusth, Pruitt, and Buckner's (1994) *Health Teaching Self-Efficacy Scale*. Items from the *Health Teaching Self Efficacy Scale* address general behaviors associated with health education, health promotion and intervention for students (Kingery et al., 1994). The scale includes statements such as "encourage self-responsibility for health," "provide opportunities for discussion of health topics," and "discuss ways to overcome barriers to changing health practices." The original scale included 35 items, however, the current study utilized 26 items, removing outdated (i.e.

use still photographs to evoke subjective responses) and highly technical (i.e. assess health status of students using weight scales, skinfold calipers, blood pressure cuffs, or other devices) items. Kingery et al.'s (1994) sample targeted health teachers specifically; however, such behaviors included in the scale are rather broad and were presumed applicable to teachers wholly given the recommended, integrated nature of student health policies and frameworks such as CSHP (Kingery et al., 1994; Schee & Gard, 2014). While items from the *Health Teaching Self-Efficacy Scale* have yet to be used for role breadth assessment, they should be viable given the generalized nature of the statements and role breadth specific response prompt. Per instructions from Morrison (1994) and McAllister et al. (2007) participants were asked to indicate their level of agreement with whether each particular behavior "is an expected part of the respondent's job." The 26 items assessed responses using a 7-point likert scale ranging from 1 ("not part of my job") to 7 ("absolutely part of my job"). Responses were coded from 0 to 6 and summed across all available items to obtain a total perceived role breadth score. Subsequent to data screening in the current study, the measure for role breadth showed good reliability ($\alpha = .974$, $n = 104$). Perceived role breadth served as a dependent variable in Hypothesis 2.

Perceived role efficacy. To assess perceived role efficacy, this study utilized items from Kingery et al.'s (1994) *Health Teaching Self Efficacy Scale*. Similar to the role breadth scale described above, the same 26 items were used in conjunction with the prompt, "please indicate your ability to perform each of the following behaviors as a teacher." Item response options were made available using a 7-point likert scale ranging from 1 ("completely certain I could not") to 7 ("completely certain I could"). Per Kingery

et al. (1994), the *Health Teaching Self-Efficacy Scale* is considered a unidimensional and reliable measure ($r = .82$, $\alpha = .96$) for behavioral self-efficacy. Responses were coded from 0 to 6 and summed across all available items to obtain a total perceived role efficacy score. Subsequent to data screening in the current study, the adapted role efficacy measure performed reliably ($\alpha = .981$, $n = 104$). Perceived role efficacy served as a dependent variable in Hypothesis 3.

Demographic information. Demographic information pertaining to gender, race and ethnicity, level of school taught, teaching area of emphasis, school location, age, education level, and tenure were also collected as part of this inquiry. Gender, race and ethnicity, level of school taught, teaching area of emphasis, and school location were considered nominal variables of interest. Gender included the options of male, female, or other. Level of school taught included three options, “Grades K-5,” “Grades 6-8,” and “Grades 9-12.” Teaching area of emphasis included a variety of school subject areas (i.e. English and literature, math, science, etc.). School location included three separate options; rural, suburban, and urban. Education level was measured as an ordinal variable ranging from less than a high school diploma to doctoral degree. Items were coded in ascending order of education level from 0 to 7 for analysis. Age and tenure were assessed as continuous variables using the questions “please provide your total number of years of service as a school employee” and “please provide your current age in years.” Age, education level, and tenure were considered block one control variables for Hypotheses 2 and 3.

Administration of the Questionnaire. Given the nature of the study and convenience for the proposed sample, data were collected via electronic questionnaire

administered through district-wide electronic mail. A link to the online questionnaire and formal consent and introduction were provided to district staff to notify potential participants of the purpose of the study as well as their rights and privileges as study subjects as mandated by the MU Office of Research. (The proposed informational letter is included in conjunction with the questionnaire in Appendix II.) Participation by teaching staff was explicitly encouraged in the introduction as well as via incentive included in the informed consent. The question “what is your job title at the school?,” originally included in the *Faculty and Staff Health Promotion School Questionnaire – Public Use Version, 2014* from the *CDC School Health Policies and Practices Study 2014* (“Faculty and Staff Health Promotion School Questionnaire,” 2014), was utilized to discriminate teaching staff from non-teaching staff a priori as inclusion criteria to allow targeted participants to move forward with completion of the questionnaire subsequent to reviewing the introduction. Subjects meeting inclusion criteria (those indicating their status as a teacher) were granted access to participate in the remainder of the study. Subjects excluded from participation (non-teaching staff members) were notified immediately that an inclusion criterion was not met and acknowledgment was given to the participant providing appreciation for their initial willingness to participate. Completed responses including raw data were collected electronically over the winter of 2015 and early spring of 2016. Data were collected using Qualtrics ® survey software and data were extracted for statistical analysis via Microsoft Excel ® and uploaded to IBM SPSS Statistics 19 ® for analysis.

Treatment of the Data

Currently, an unfounded assumption exists that the availability of health and wellness opportunities contributes to a healthy school environment. Little research has addressed such effects or much less employed methods to identify the existence of potential relationships in a teacher population. Considering the literature, the current inquiry sought to investigate the relationship between the perceived availability of health and wellness opportunities in schools, teacher personal interest and competence for health, and teacher engagement in student health promoting behaviors. Such relationships were assessed via three separate hypotheses using sequential multiple linear regression as the primary statistical method. “In sequential (multiple) regression, independent variables enter the (regression) equation in an order specified by the researcher (Tabachnick & Fidell, 2007, 138).” As noted, the literature suggests well-founded associations between certain variables included in this study. As a result, each hypothesis was addressed considering predetermined control, or first block variables. IBM SPSS Statistics 19 ® was used to perform the sequential multiple regression analyses. Procedurally, predetermined control variables were entered to the multiple regression model as “first block items” with the independent variables of interest entered as “second block items.” For instance, health status served as a control variable in the prediction equation relating the perceived availability of health and wellness opportunities (IV) to personal interest in health (DV) (Hypothesis 1a) and perceived health competence (DV) (Hypothesis 1b). A similar method was employed for the variables considered within Hypotheses 2 and 3 as noted in Chapter I. Given this method, the study focused predominantly on the variables of interest with respect to the change in the amount of variance explained (R^2) after

“block two” of each analysis. The change in variance (R^2) after “block two” was considered the amount of variance explained over and above the factors already known to potentially influence the variables of interest.

Once collected, and prior to analysis, the data was screened for missing values, outliers, and pertinent assumptions (i.e. normality, linearity, homoscedasticity, multicollinearity, etc.) (Tabachnick & Fidell, 2007). Necessary adjustments and transformations were addressed and are noted in the data analysis section. Missing data and univariate and multivariate outliers were handled via listwise deletion. In addition to the sequential multiple regression models, general descriptive statistics and correlational analysis were performed. Results of the statistical analysis are included in Chapter IV

Chapter IV

Results

The data analysis section is intended to describe the collected data as well as the statistical findings pertinent to the research questions and hypotheses presented in Chapter I. Statistical findings for each hypothesis from Chapter I is presented and briefly discussed. The bulk of results specifically address the hypothesized relationships between the availability of health and wellness opportunities in select school districts, personal interest in and perceived competence for health, and role perceptions as supporters for student health in a sample of teachers.

Data Screening

Prior to analysis, all teacher data were recoded as described in Chapter III and examined using IBM SPSS Statistics 19 ®. Overall, a total of 255 individuals, from five separate school districts, attempted to complete the research instrument for this study with raw individual district sample sizes ranging from 12 to 134 respondents. 81 respondents failed to meet inclusion criteria (did not select “teacher” as their primary job title), leaving 174 total teacher responses for data screening and analysis. A total of 65 responses were identified that included missing data points across various items. Cases that included missing data points were deleted prior to further data screening. The variables of personal interest in health, perceived health competence, role breadth for

student health, role efficacy for student health, the availability of school-site health and wellness opportunities as well as the control variables of health status, education, age, and years of service were further examined in the 109 remaining cases to determine whether the statistical assumptions associated with multiple regression were satisfied.

To identify univariate outliers, standardized z scores were computed for the variables to be included in hypothesis testing. Per Tabachnick and Fidell (2007), “cases with standardized scores in excess of 3.29 are considered potential outliers (73).” Two outliers were identified in the variable of availability of school-site health and wellness opportunities and three outliers were identified in the variable of education using this recommendation. No multivariate outliers were identified using Mahalanobis distance at $p < .001$. All five cases including univariate outliers were deleted. The remaining completed cases showed relative normality and exhibited appropriate skewness and kurtosis values. Multicollinearity was not a concern given variance inflation factors (VIF) less than five and tolerance values greater than .30 for all variables of interest, with no correlation between individual variables greater than $r = .70$. Linearity was assessed using within group and total sample scatterplots and found to be satisfactory. A final sample of 104 participants was utilized for data analysis and hypothesis testing.

In addition, given data collection from multiple districts, a one-way ANOVA, using district as the grouping factor, was performed to determine whether differences in health-related and predetermined control variables existed to justify its inclusion as an additional control variable for total school-site health and wellness opportunities. Between group differences were confirmed in both education, $F(4, 99) = 4.592, p = .002$, and total school-site health and wellness opportunities, $F(4, 99) = 8.910, p < .001$. To

account for the variance associated particularly with school-site health and wellness opportunities between districts, district was considered an additional control variable for data analysis and hypothesis testing. As a result, school district dummy variables were coded 0 or 1 for participants from each school district. The district with the largest individual sample served as the reference group.

Description of the Data

Subjects. The research instrument was administered to a total of five school districts located within the state of Missouri during the winter of 2015 and early spring of 2016. School districts ranged in location from rural to suburban and varied in size from approximately 2,000 to greater than 10,000 students. Districts 1 through 4 were considered rural districts and District 5 was located in a suburban area. Calculation of an accurate response rate was unable to be obtained given the distribution of the questionnaire was carried out on behalf of the researcher by individual school district personnel. Of the total number of respondents, 58 participants (55.8%) were teachers from District 5. Samples from the remaining districts ranged in size from 9 to 13 participants. Demographically, the sample was predominantly female (84%), non-Hispanic or Latino (99%), and white (98%). 53 participants were teachers in kindergarten through grade five, 14 participants were teachers in grades six through eight, and 37 participants were teachers in grades nine through twelve. Elementary education (33.7%), special education (11.5%), and practical arts (11.5%) were the most frequently selected teaching areas of emphasis. Only six respondents (5.8%) indicated teaching area of emphasis as health or physical education and as expected represented the highest average scores in many of the personal health and role perception variables (interest = 31.50,

competence = 31.50, role breadth = 134.17, role efficacy = 139). In regards to education level, 78 of the total respondents (75%) indicated they had attained a Master's degree. Average age in years of the sample was 40.06 years old and average years of service was 12.63 years.

Unexpectedly, education, age, and years of service were associated with each other, but showed little association with any health-related or role perception variables. The single exception, education, was negatively associated with perceived role breadth for student health ($r = -.241, p = .014$). When controlling for district variance, however, this association lost significance ($r = -.196, p = .051$). The loss in significance when controlling for district may hint that education and district are confounding in regards to their association with role breadth for student health. As noted previously, there were statistically significant differences between districts regarding education level. First, such an association may be consistent with Reinke et al.'s (2011) findings that some teachers, particularly those in districts with available resources, are expected to defer the primary role of student health to professionally trained health personnel such as the school psychologist or school nurse, regardless of their education status. This suggests school organizational or environmental contexts as possible influences on teacher role breadth for student health in addition to personal factors beyond education, age, and years of service. Due to the low and non-significant partial correlations for education, age, and years of service, these variables were not included in the remainder of analyses.

Brief descriptions of the individual variable data follows and is presented in Table 2. Significant Pearson and partial correlations are also discussed with partial correlations (controlling for district) between variables of interest displayed in Table 3.

Perceived Health Status. The perceived health status measure was included to serve as a control associated with both personal interest in and perceived health competence within the primary analyses. As noted, health status was assessed via a single-item measure ranging from 1 (poor) to 5 (excellent). A mean value of 3.29 ($SD = .867$) was determined for the full sample, which was best associated with an assessment of good overall health. As expected, perceived health status was significantly associated with other health-related variables, including personal interest in health ($r = .285, p = .003$), perceived competence for health ($r = .627, p < .001$), and perceived role breadth for student health ($r = .226, p = .021$). Partial correlation coefficients for perceived health status and personal interest in health ($r = .264, p = .008$), perceived health competence ($r = .640, p < .001$), and perceived role breadth for student health ($r = .242, p = .015$) remained significant when controlling for district. Most interestingly, under all circumstances, perceived health status was not significantly related to perceived role efficacy for student health. Thus, per the sample, teachers' assessment of their own health was not significantly associated with their perceived ability to promote health in students.

Table 2

Descriptive Statistics of Variables in Study

Variable	Min.	Max.	Mean	SD
Education	4	7	5.78	.48
Age	22	65	40.06	10.81
Years of Service	0	32	12.63	8.22
Perceived Health Status	1	5	3.29	.87
School-site Health and Wellness Opportunities	0	18	7.57	3.78
Interest in Health	13	32	26.57	5.07
Perceived Health Competence	0	32	18.63	6.05
Role Breadth for Student Health	0	156	67.95	41.59
Role Efficacy for Student Health	0	156	100.21	40.31

Note. n = 104

Availability of School-site Health and Wellness Opportunities. Availability for school-site health and wellness opportunities was intended to assess the total number of health and wellness opportunities available within the districts sampled. The greater availability of health and wellness opportunities was presumed to represent more extensive school-site health and wellness programming. Overall, an average of 7.57 ($n = 104$, $SD = 3.78$) health and wellness opportunities were identified within individual districts by the final sample of participants on a scale from 0 to 28. The only significant correlation identified initially with available school-site health and wellness opportunities was personal interest in health ($r = .237$, $p = .015$). After controlling for district, however, this relationship lost significance ($r = .145$, $p = .150$).

Personal Interest in Health. Personal interest in health was included to assess participants' personal orientation toward the general topic of health. Overall, respondents presented a mean personal interest in health score of 26.57 ($n = 104$, $SD = 5.07$) on a scale from 0 (not at all true) to 32 (very true). In addition to perceived health status, personal interest in health was associated with perceived health competence ($r = .381$, $p < .001$) and perceived role breadth for student health ($r = .355$, $p < .001$). Partial correlation coefficients for personal interest in health remained significant for perceived health competence ($r = .366$, $p < .001$) and perceived role breadth ($r = .342$, $p = .001$) when considering district as a control.

Perceived Health Competence. Perceived health competence was intended to measure participants' ability to manage their own health outcomes. In the full sample, respondents presented a mean perceived health competence score of 18.63 ($n = 104$, $SD = 6.05$) on a scale of 0 (not at all true) to 32 (very true). Perceived health competence, in

addition to being related to personal interest in health and perceived role breadth for student health, was also correlated with role efficacy for student health ($r = .237, p = .016$). The partial correlation between perceived health competence and role efficacy for student health ($r = .239, p = .017$) remained significant when controlling for district.

Table 3

Partial Correlations of Variables in Study[^]

Variable	1	2	3	4	5	6	7	8	9
1. Education	1.00								
2. Age	.219*	1.00							
3. Years of Service	.256*	.746**	1.00						
4. Perceived Health Status	.040	.055	.064	1.00					
5. School-site Health and Wellness Opportunities	.012	-.043	-.028	-.021	1.00				
6. Personal Interest in Health	.006	.149	.044	.264**	.145	1.00			
7. Perceived Health Competence	-.087	-.021	.051	.640**	.000	.366**	1.00		
8. Role Breadth for Student Health	-.196	.099	.120	.242*	.122	.342**	.157	1.00	
9. Role Efficacy for Student Health	-.113	-.058	.059	.113	.056	.183	.239*	.527**	1.00

Note. [^]Controlling for district. n = 104, * $p < .05$, ** $p < .01$

Perceived Role Breadth for Student Health. Perceived role breadth was included to measure whether teachers felt certain student health promoting activities or behaviors were part of their job. Overall, respondents presented a mean perceived role breadth score of 67.95 (n = 104, SD = 41.59) on a scale from 0 (not part of my job) to 156 (absolutely part of my job). In addition to perceived health status and personal interest in health, perceived role breadth was correlated to perceived role efficacy ($r = .515, p < .001$). The partial correlation between perceived role breadth and perceived role efficacy improved when controlling for district ($r = .527, p < .001$). This finding is consistent with previous studies exhibiting moderate associations between the health-

related role perception variables of role breadth and role efficacy (Mazzer & Rickwood, 2015).

Perceived Role Efficacy for Student Health. Perceived role efficacy refers, in this study, to a teacher's perceived capability of carrying out his or her perceived student health-related roles. Overall, respondents presented a mean perceived role efficacy score of 100.21 ($n = 104$, $SD = 40.31$) on a scale of 0 (completely certain I could not) to 156 (completely certain I could). As noted, perceived role efficacy was significantly correlated with perceived health competence and perceived role breadth when controlling for district, but was not associated with perceived health status or personal interest in health.

Availability of School-site Health and Wellness Opportunities and Personal Interest in Health

For Hypothesis 1a, a standard sequential multiple regression was performed between personal interest in health as the dependent variable and total school-site health and wellness opportunities as the independent variable. The purpose of the analysis was to determine whether total school-site health and wellness opportunities improved the prediction of personal interest in health beyond perceived health status and district affiliation. Perceived health status and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. Table 4 displays a model summary including unstandardized regression coefficients (B), the standardized regression coefficients (β), R^2 , adjusted R^2 , change in R^2 , and F values. R was significantly different from zero at each step given $\alpha = .05$. The full model, with all independent variables entered, presented an R^2 value of .146, $F(6, 97) = 2.773$, $p = .016$.

The adjusted R^2 value of .094 suggested that only about 9% of the variability in personal interest in health was explained by perceived health status, district affiliation, and total school-site health and wellness opportunities. Though the final model showed significance at $\alpha = .05$, the only significantly contributing variable was perceived health status, $B = 1.559$, SE = .565, $p = .008$. While the availability of school-site health and wellness opportunities resulted in a positive R^2 change after block two analysis, the difference was small ($\Delta R^2 = .02$) and not significant ($p = .123$). Thus, the availability of school-site health and wellness opportunities did not significantly contribute to the prediction of personal interest in health above and beyond perceived health status and district affiliation. Hypothesis 1a was not supported.

Table 4

Predicting Personal Interest in Health from Total School-site Health and Wellness Opportunities[^]

Predictor	Model 1		Model 2	
	Unstandardized Coefficient	Standardized Coefficient	Unstandardized Coefficient	Standardized Coefficient
Constant	20.737		19.210	
Perceived Health Status	1.541**	.264	1.559**	.267
School-site Health and Wellness Opportunities			.228	.170
R^2	.125*		.146*	
Adjusted R^2	.081		.094	
ΔR^2			.021	
F	2.804 (5, 98)		2.773 (6, 97)	

Note. [^]District not included in the summary table. * $p < .05$, ** $p < .01$

Availability of School-site Health and Wellness Opportunities and Perceived Health Competence

For Hypothesis 1b, a standard sequential multiple regression was performed between perceived health competence as the dependent variable and total school-site health and wellness opportunities as the independent variable. The purpose of the analysis was to determine whether total school-site health and wellness opportunities improved the prediction of perceived health competence beyond perceived health status and district affiliation. Perceived health status and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. Table 5 displays a model summary including unstandardized regression coefficients (B), the standardized regression coefficients (β), R^2 , adjusted R^2 , change in R^2 , and F values. R was significantly different from zero at each step given $\alpha = .001$. The full model, with all independent variables entered, presented an R^2 value of .438, $F(6, 97) = 12.591, p < .001$. The adjusted R^2 value of .40 suggested that approximately 40% of the variability in perceived health competence was explained by perceived health status, district affiliation, and total school-site health and wellness opportunities. Though the full model showed significance at $\alpha = .001$, the only significantly contributing variable in block two was perceived health status, $B = 4.503, SE = .548, p < .001$. To note, the availability of school-site health and wellness opportunities resulted in no R^2 change after block two analysis ($p = .870$). Thus, the availability of school-site health and wellness opportunities did not significantly contribute to the prediction of perceived health competence over and above perceived health status and district affiliation. Hypothesis 1b was not supported.

Table 5

Predicting Perceived Health Competence from Total School-site Health and Wellness Opportunities[^]

Variable	Model 1		Model 2	
	Unstandardized Coefficient	Standardized Coefficient	Unstandardized Coefficient	Standardized Coefficient
Constant	3.506		3.349	
Perceived Health Status	4.501**	.644	4.503**	.644
School-site Health and Wellness Opportunities			.023	.015
R^2	.438*		.438*	
Adjusted R^2	.409		.403	
ΔR^2			.000	
F	15.255 (5, 98)		12.591 (6, 97)	

Note. [^]District not included in the summary table. * $p < .05$, ** $p < .01$

Perceived Role Breadth for Student Health and Personal Interest in Health

For Hypothesis 2a, a standard sequential multiple regression was performed between perceived role breadth for student health as the dependent variable and personal interest in health as the independent variable. The purpose of the analysis was to determine whether personal interest in health improved the prediction of perceived role breadth for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. Table 6 displays a model summary including unstandardized regression coefficients (B), the standardized regression coefficients (β), R^2 , adjusted R^2 , change in R^2 , and F values. R

was not significantly different from zero after the first block ($p = .081$). Block one analysis presented a non-significant model, including one significant regression coefficient, perceived health status $B = 11.872$, SE = 4.747, $p = .014$. R was significantly different from zero after the second block ($p = .007$). Second block analysis yielded a significant model, $F(7, 96) = 2.983$, $p = .007$, with one significant contributing factor, personal interest in health, $B = 2.370$, SE = .822, $p = .005$. The full model, with all independent variables entered, presented an R^2 value of .179. The adjusted R^2 value of .119 suggested that approximately 12% of the variability in perceived role breadth for student health was explained by perceived health status, total school-site health and wellness opportunities, district affiliation, and personal interest in health. Personal interest in health resulted in a significant change ($\Delta R^2 = .071$, $p = .005$) in the explanation of the variance associated with perceived role breadth for student health after block two analysis by approximately 7%. As such, personal interest in health significantly contributed to the prediction of perceived role breadth over and above perceived health status, total school-site health and wellness opportunities, and district affiliation. Hypothesis 2a was supported.

Perceived Role Breadth for Student Health and Perceived Health Competence

For Hypothesis 2b, a standard sequential multiple regression was performed between perceived role breadth for student health as the dependent variable and perceived health competence as the independent variable. The purpose of the analysis was to determine whether perceived health competence improved the prediction of perceived role breadth for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site

health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. First

Table 6

Predicting Perceived Role Breadth for Student Health from Personal Interest in Health[^]

Variable	Model 1		Model 2	
	Unstandardized Coefficient	Standardized Coefficient	Unstandardized Coefficient	Standardized Coefficient
Constant	13.143		-32.374	
Perceived Health Status	11.872*	.247	8.178	.170
School-site Health and Wellness Opportunities	1.604	.146	1.064	.097
Personal Interest in Health			2.370**	.289
<i>R</i> ²	.108		.179**	
Adjusted <i>R</i> ²	.052		.119	
ΔR^2			.071**	
<i>F</i>	1.948 (6, 97)		2.983 (7, 96)	

Note. ^District not included in the summary table. * $p < .05$, ** $p < .01$

block analysis yielded identical results to hypothesis 2a. *R* was not significantly different from zero after the second step ($p > .05$) and did not include any statistically significant predictors. Thus, perceived health competence did not significantly contribute to the prediction of perceived role breadth for student health over and above perceived health status, total school-site health and wellness opportunities, and district affiliation.

Hypothesis 2b was not supported.

Perceived Role Breadth for Student Health, Personal Interest in Health, and Perceived Health Competence

For Hypothesis 2c, a standard sequential multiple regression was performed between perceived role breadth for student health as the dependent variable and personal interest in health and perceived health competence as the independent variables. The purpose of the analysis was to determine whether personal interest in health and perceived health competence incrementally improved the prediction of perceived role breadth for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. Table 7 displays a model summary including unstandardized regression coefficients (B), the standardized regression coefficients (β), R^2 , adjusted R^2 , change in R^2 , and F values. First block analysis yielded identical results to hypothesis 2a. Second block analysis yielded a significant model, $F(8, 95) = 2.678, p = .011$, with one significant contributing factor, personal interest in health, $B = 2.550, SE = .855, p = .004$. The full model, with all independent variables entered, presented an R^2 value of .184. The adjusted R^2 value of .115 suggested that approximately 12% of the variability in perceived role breadth for student health was explained by perceived health status, total school-site health and wellness opportunities, district affiliation, personal interest in health, and perceived health competence. The addition of personal interest in health and perceived health competence did result in a significant R^2 change ($\Delta R^2 = .076, p = .014$) after block two analysis. However, personal interest in health was the only significant factor that

contributed to the prediction of perceived role breadth over and above perceived health status, total school-site health and wellness opportunities, and district affiliation. Thus, personal interest in health and perceived health competence did not incrementally enhance the prediction of perceived role breadth over and above block one control variables. Hypothesis 2c was not supported.

Table 7

Predicting Perceived Role Breadth for Student Health from Personal Interest in Health and Perceived Health Competence[^]

Variable	Model 1		Model 2	
	Unstandardized Coefficient	Standardized Coefficient	Unstandardized Coefficient	Standardized Coefficient
Constant	13.143		-33.508	
Perceived Health Status	11.872*	.247	11.034	.230
School-site Health and Wellness Opportunities	1.604	.146	1.039	.095
Personal Interest in Health			2.550**	.311
Perceived Health Competence			-.697	-.101
R^2	.108		.184*	
Adjusted R^2	.052		.115	
ΔR^2			.076*	
F	1.948 (6, 97)		2.678 (8, 95)	

Note. ^District not included in the summary table. * $p < .05$, ** $p < .01$

Perceived Role Efficacy for Student Health and Personal Interest in Health

For Hypothesis 3a, a standard sequential multiple regression was performed between perceived role breadth for student health as the dependent variable and personal

interest in health as the independent variable. The purpose of the analysis was to determine whether personal interest in health improved the prediction of perceived role efficacy for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. R was not significantly different from zero after either step ($p > .05$). Further, there were no significantly contributing factors in either model. Thus, personal interest in health did not significantly contribute to the prediction of perceived role efficacy for student health over and above perceived health status, total school-site health and wellness opportunities, and district affiliation. Hypothesis 3a was not supported.

Perceived Role Efficacy for Student Health and Perceived Health Competence

For Hypothesis 3b, a standard sequential multiple regression was performed between perceived role efficacy for student health as the dependent variable and perceived health competence as the independent variable. The purpose of the analysis was to determine whether perceived health competence improved the prediction of perceived role efficacy for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. R was not significantly different from zero after either step ($p > .05$). Perceived health competence, $B = 1.894$, $SE = .867$, $p = .031$, was noted as a significant predictor within the full model. Though perceived health competence did improve the prediction of

perceived role efficacy for student health over and above perceived health status, total school-site health and wellness opportunities, and district affiliation after block two, the full model failed to meet statistical significance ($p > .05$). Hypothesis 3b was not supported.

Perceived Role Efficacy, Personal Interest in Health, and Perceived Health Competence

For Hypothesis 3c, a standard sequential multiple regression was performed between perceived role efficacy for student health as the dependent variable and personal interest in health and perceived health competence as the independent variables. The purpose of the analysis was to determine whether personal interest in health and perceived health competence incrementally improved the prediction of perceived role breadth for student health beyond perceived health status, total school-site health and wellness opportunities, and district affiliation. Perceived health status, total school-site health and wellness opportunities, and district affiliation were included in the first block of analysis as independent variables and served as controls for block two analysis. R was not significantly different from zero after either step ($p > .05$). Further, there were no significantly contributing factors in either model. As a result, it was determined that personal interest in health and perceived health competence did not incrementally enhance the prediction of perceived role efficacy over and above block one control variables. Hypothesis 3c was not supported.

Chapter V

Summary and Conclusions

Frameworks such as the Centers for Disease Control's Coordinated School Health Program (CSHP) have been extensively implemented as best practice to promote overall school health. Such programming is often studied in an effort to continually improve and maintain the health of both personnel and students in the school setting. Due to the broadly accepted association between health and education as well as the regular interaction between school personnel and students, it is imperative to further understand the intricate relationships between available school-site health and wellness programming and its holistic effects on school constituents. One often cited presumption is that school-site health and wellness programming for faculty and staff, a signature component of the CSHP, may contribute to the development of improved personal interest in health for school personnel (Allegrante, 1998). Further, school personnel's "awareness and interest in their own health promotion" has been suggested as foundational to the capacity for schools to implement comprehensive and effective student health initiatives (Parcel et al., 1988, 443). As a result, it is supposed that school personnel who are interested in their own health may view their roles associated with student health more broadly (Allegrante, 1998; Parcel et al., 1988). While some research has failed to identify any direct contribution of faculty and staff health and wellness programming to actual student

outcomes, intervening relationships at the school personnel level have yet to be vetted (Murray et al., 2007; Resnicow et al., 1998). Therefore, the purpose of this study was to inspect a more nuanced view of perceptions of available school-site health and wellness opportunities, personal interest in health, perceived health competence, and how these factors contributed to role perceptions associated with student health in a sample of teachers. The following chapter will provide a summary of the procedures used to address this inquiry, a summary of the findings, conclusions, implications, and recommendations for further study.

Summary of Procedures

The proposed inquiry was addressed quantitatively via the administration of a 107 item electronic questionnaire to a sample of teachers in the state of Missouri. Given the focus of the study on teaching staff, the questionnaire required that participants meet inclusion criteria by satisfactorily identifying themselves as “teachers” before being granted access to the full survey. Specific instruments within the questionnaire were utilized to collect data associated with the availability of school-site health and wellness opportunities, perceived health status, personal interest in health, perceived health competence, perceived role breadth for student health, perceived role efficacy for student health, and demographic data.

The total school-site health and wellness opportunities variable was obtained using 28 yes or no dichotomous items from the *Faculty and Staff Health Promotion School Questionnaire – Public Use Version* of the CDC’s *School Health Policies and Practices Study of 2014* (“Faculty and Staff Health Promotion School Questionnaire,”

2014). Affirmative responses were summed to represent a total school-site health and wellness opportunity score.

A perceived health status score was obtained using a single-item measure allowing respondents to rate their perceived health on a scale from 1 (poor) to 5 (excellent) per the question “how would you rate your overall health at the present time?”

Personal interest in health was measured using an altered version of Linnenbrink-Garcia et al.'s (2010) individual interest scale. The scale's purpose was to obtain a single score representative of a combination of the respondent's value-related and feeling-related perceptions associated with the general concept of health (see health as defined in Chapter I). The 8-items were measured on a 5-point likert scale. The scale performed reliably in this study ($\alpha = .896$, $n = 104$) and resulted in a summative personal interest in health score for each respondent.

Perceived health competence was measured using Smith et al.'s (1995) 8-item *Perceived Health Competence Scale (PHCS)*. Items were assessed on a 5-point likert scale. The *PHCS* was reliable ($\alpha = .863$, $n = 104$) in this study and items were summed to determine a perceived health competence score for each respondent.

Two scales were created for the purposes of this study to measure teacher perceived role breadth for student health and teacher perceived role efficacy for student health. Each scale used the same 26 adapted items from Kingery et al.'s (1994) *Health Teaching Self Efficacy Scale*. For perceived role breadth, respondents were asked to indicate their level of agreement with whether a particular student health promoting behavior was “an expected part of the respondent's job.” For perceived role efficacy, respondents were asked to indicate their level of confidence in whether they had the

ability to perform particular student health promoting behaviors. Items for each scale were assessed on a 7-point likert scale and responses were summed to create a perceived role breadth for student health score and a perceived role efficacy for student health score. Items for perceived role breadth ($\alpha = .974$, $n = 104$) and perceived role efficacy ($\alpha = .981$, $n = 104$) performed reliably in this study.

Questions pertaining to gender, race and ethnicity, level of school taught, teaching area of emphasis, school location, age, education level, and tenure were also included in the questionnaire.

The full questionnaire was distributed to faculty and staff in five Missouri school districts during the winter of 2015 and early spring of 2016. School districts ranged in location from rural to suburban and varied in size from approximately 2,000 to greater than 10,000 students. Districts 1 through 4 were considered rural districts and District 5 was located in a suburban area. Informed consent and a questionnaire link were distributed by school district personnel on behalf of the researcher subsequent to school district and IRB approval. A total of 255 individuals attempted to complete the questionnaire amongst the district populations. 174 of the respondents met inclusion criteria for the study by identifying themselves as teachers. After data screening, 104 total completed questionnaires remained for data analysis.

Using final data, this study sought to investigate the predictive relationships between the perceived availability of health and wellness opportunities in schools, teacher personal interest in and competence for health and teacher role perceptions for student health promotion. Sequential multiple linear regression was used as the primary statistical method to assess these relationships. Data analysis focused predominantly on

identifying the change in the amount of variance explained (R^2) by the independent variables in the outcomes over and above controls.

Summary of the Findings

Overall, the sample was demographically homogeneous. Nearly all participants were female (84%), white (98%), non-Hispanic or Latino (99%), and had obtained a Master's degree (75%). Just over half of the respondents represented a single suburban school district (58%), while the remaining subjects were from four rural districts. Participants spanned a variety of grade levels (K – 12) and teaching areas of emphasis. Average age in years of the sample was 40.06 years old and average years of service was 12.63 years.

Teachers in the sample, on average, expressed perceptions of good overall health, relatively high levels of personal interest in health, and a moderate ability to manage personal health outcomes. Teachers in the sample also acknowledged relatively low availability of school-site health and wellness opportunities within the sampled districts with low to moderate levels of perceived role breadth for student health and middle of the road perceptions of perceived role efficacy for student health. A majority of the personal health-related and role perception for student health variables were significantly correlated, with exception to the relationship between perceived role breadth and perceived role efficacy when accounting for district affiliation ($r = .527, p < .001$). A priori control variables, education, age, and years of service exhibited low and non-significant correlations and as a result were not included in the final regression analyses. As expected, perceived health status was a consistent, significant contributor within the regression models for personal interest in health, perceived health competence, and

perceived role breadth for student health. Total school-site health and wellness opportunities did not significantly contribute to personal interest in health or perceived health competence nor did it serve as a significant control for perceived role breadth or perceived role efficacy for student health predictions. Surprisingly, no factors included in the current study contributed to the prediction for perceived role efficacy for student health. The most relevant finding within the entire set of sequential regression models concerned the predictive relationship between personal interest in health and perceived role breadth for student health, Hypothesis 2a. Hypothesis 2a was supported as personal interest in health significantly enhanced the prediction of perceived role breadth for student health by explaining approximately 7% in additional variance after controls ($F(7, 96) = 2.983, p = .007, \Delta R^2 = .071, p = .005$). The remaining hypotheses (1a, 1b, 2b, 2c, 3a, 3b, and 3c) resulted in non-significant findings and were not supported.

Conclusions

Overall Hypotheses 1a and 1b yielded no significant findings in the hypothesized models. These results propose that the perceived availability of school-site health and wellness opportunities fail to significantly contribute to the prediction of personal interest in health or perceived health competence over and above perceived health status and district affiliation. Given the limitations and presumptive nature of the models in this inquiry, it can be suggested that personal health-related factors in teachers could be more complexly formed than from simple acknowledgment that health and wellness opportunities exist in the school setting. Actual engagement in such activities, the quality and depth of available health and wellness programming found in school districts, or other school-site and non-school-site factors (i.e. school culture, incentives for

participation, etc.) are likely more influential in the shaping of a teacher's personal interest in and ability to manage his or her own health.

Hypothesis 2a was the only model that significantly predicted role breadth for student health over and above controls. This finding gives some credence to Allegranте's (1998) original presumption that teacher engagement in student health can be developed through an interest in one's own personal health. It also implies that personal interest in health serves as one of the many complex antecedents in the formation of teacher role breadth perceptions for student health promotion along with the enhancement of student health knowledge and training through pre-service teacher education (Clark, Brey, & Clark, 2013; Fahlman et al., 2013; Jourdan et al., 2008; Yager, 2011), in-service professional development (Drolet & Fetro, 1991; Fisher et al., 2003; Sherwood-Puzzello et al., 2007), and comprehensive school health policies (Inman et al., 2011). Further, while this study does not confirm that heightened role breadth is a direct driver for or translates to actual health promoting behaviors, evidence from Mazzer and Rickwood (2015) suggests it does as they identified role breadth as a significant predictor for engagement in mental health promotion and prevention efforts. As a result, this study contributes to the existing body of school health literature by identifying personal interest in health as a potentially meaningful component to the formation of teacher roles regarding student health. This study also puts forward the possibility that personal interest in health could be an indirect contributor to teachers' actual engagement in student health promoting behaviors (Mazzer & Rickwood, 2015).

Despite moderate levels of perceived role efficacy for student health in this sample, no models included in Hypothesis 3 were supported. This finding suggests that

the personal health-related factors included in this study were not impactful on a teacher's perceived ability to promote student health. According to the literature, teacher knowledge about student health and pre-service or in-service student health training appear to have a greater impact on a teacher's ability to manage and promote student health than personal health-related factors (Fahlman et al., 2013; Fahlman et al., 2002; Fahlman et al., 2011; Haas Baskin, Saylor, Furey, Finch Jr., & Carek, 1983; Shepherd et al., 2013)

Discussion and Implications

The participation by faculty and staff in school health initiatives is vital to a comprehensive and effective school-wide health approach (Basch, 2011; Lohrmann, 2008). Participation in healthy behaviors by school staff has important effects on employee physical and psychological well-being as well as organizational benefits in the form of reduced absenteeism, lower insurance costs, and a more resilient workforce (Haines et al., 2007; Kaewthummanukul & Brown, 2006). Inherent to the evidence-based CSHP are elements of school, family, and community, of which teachers are an important part. The successful inclusion of these stakeholders in school-wide health programming and understanding how each party contributes to this mission is essential to enhancing the total school health environment and ultimate health and wellness of students (U.S. Department of Health and Human Services, 2013). The findings associated with this study have identified that school-site health and wellness programming, personal health-related variables, and role perceptions for student health in teachers are complex. As such, elements of this study support existing literature, identify some relevant

implications for school health programming and teacher roles, and open new avenues for research.

Overall, while these findings may be difficult to generalize due to limited sampling and a homogenous sample, the study does contribute to the existing school health literature. First, correlation findings suggest that some association exists between personal health-related factors in teachers and teacher role perceptions for engagement in student health. In particular, perceived health status ($r = .242, p < .05$) and personal interest in health ($r = .342, p < .01$) presented positive and significant associations with perceived role breadth for student health. Perceived health competence ($r = .239, p < .05$) was significantly associated with role efficacy for student health. Most importantly, personal interest in health significantly contributed to the prediction for perceived role breadth for student health as Hypothesis 2a was supported. These relationships have previously only been assumed. Second, findings from this study put forward that the mere availability of faculty and staff health and wellness programming does not influence teacher perceptions regarding their own health and does not contribute to their role perceptions for engagement in student health. These findings may however hint that other factors pertaining to faculty and staff health and wellness programming, such as successful implementation, quality, actual teacher participation, and school organizational support, could be acknowledged to result in more meaningful teacher and student health-related outcomes. Third, this study presents a few unique considerations relating to the formation of an association between role breadth and role efficacy for student health. When controlling for district, the relationship between education and role breadth lost significance suggesting that district level factors (i.e. organizational

structure, policies, culture, etc.) may also be impactful to teacher perceptions regarding role breadth for student health in addition to personal factors. Further, teachers in this sample presented much higher scores for role efficacy for student health ($x = 100.21$ on a scale of 0 to 156) than role breadth for student health ($x = 67.95$ on a scale of 0 to 156), yet both were significantly related ($r = .515, p < .001$). As such, teachers in this sample felt rather capable promoting student health, but generally did not consider it as part of their jobs. This implies that teachers, though competent, may be less likely to actually engage in student health promoting behaviors because they do not consider it an in-role responsibility (Mazzer & Rickwood, 2015; McAllister et al., 2007; Morrison, 1994). A relationship of this nature may be limiting to both individual and organizational capacity for the implementation of integrative and successful school-wide health initiatives, especially those that require broad school personnel support (Hoyle et al., 2008; Maras et al., 2014; Parcel et al., 1988).

Total health and wellness opportunities within the sampled districts were relatively low ($x = 7.57$ on a scale from 0 to 28) and were not related to perceived health status, personal interest in health, or perceived health competence. This factor also failed to meet significance in the prediction for teacher perceived roles regarding student health. Thus, the availability of school-site health and wellness programming alone does not appear to be enough to improve the health and well-being of teaching staff and in turn does not appear to contribute to teacher engagement in student health. In addition, null findings between the availability of health and wellness opportunities and teacher outcomes are indicative of known limitations associated with low participation, a lack of

implementation, and quality of available health and wellness programming within schools.

In support of Vansickle et al. (2010), Linnan et al. (2001), and Busbin and Campbell (1990), findings in this study purport that the mere presence of health and wellness opportunities does not guarantee staff will participate nor that opportunities alone lead to meaningful and measurable health-related outcomes in teachers. First, low availability of health and wellness opportunities in this sample was consistent with findings from the most recent School Health Policies and Practices Study (SHPPS) in 2012. Overall, despite known benefits associated with successful programming in school settings (e.g. reduced absenteeism, indirect financial implications for districts, healthier staff lifestyles), the implementation of faculty and staff health and wellness opportunities is generally low, with less than 50% of districts assigning coordination duties or implementing extensive health and wellness programming (Centers for Disease Control, 2015; Gillan et al., 2014; Haines et al., 2007). Second, the primary purpose of faculty and staff health and wellness programming is “to facilitate behavioral change and maintenance, emphasizing optimal health (Rogers, 2006, 442).” Previous research has shown “increased health awareness,...increased physical activity and the initiation of health care to manage” personal health-related concerns upon the successful implementation of and participation by faculty and staff in health and wellness programming (Haines et al., 2007, 224). While this study did not address actual participation or the quality of health and wellness programming specifically, the null relationships found in this study imply a limited overall effect of available health and wellness opportunities on teachers. As a result, improvements in participation,

implementation, and quality of faculty and staff health and wellness programming may be some of the underlying ways to maximize teacher personal interest in health and other health and well-being characteristics within the school environment. These recommendations may indirectly assist schools in realizing the organizational benefits associated with healthier personnel such as improving individual and organizational capacity for the implementation of school health initiatives, integration of faculty and staff health and wellness into the total school health environment, and to serve as positive influences on student health and subsequent academic outcomes (Hoyle et al., 2008; Murray et al., 2007; Parcel et al., 1988).

The most important finding in this study was the significant predictive relationship between personal interest in health and perceived role breadth for student health in teachers. Per Mazzer and Rickwood (2015), role breadth is considered an important predictor for actual teacher engagement in student health promoting behaviors. However, given the small explanation of variance in role breadth by personal interest in health (approximately 7%), this study also supports the notion that a teacher's perceived roles associated with student health promoting behaviors is inclusive of a variety of personal, social, and organizational factors.

Thornton and Nardi (1975) discuss role acquisition and the eventual performance of such roles through stages that include a variety of intrapersonal and extrapersonal factors. Individual characteristics, social interactions, and formal and informal expectations within the immediate and hypothetical environment shape each individual's perceived roles and whether he or she engages in them. Teachers in this study showed high personal interest in health and perceived health competence; the sample also

exhibited a low average score for perceived role breadth and a much higher average score for perceived role efficacy. The exceptions in this study, however, were health and physical education teachers. These individuals presented high levels of all health-related variables included in the study. In a qualitative review by Shepherd et al. (2013), it was noted that health programming leaders, many of whom were physical education and science teachers, expressed “a strong personal interest in health,... as well as a holistic concept of health and well-being (38).” Within the hypothetical school context, health and physical education teachers, above other school personnel, are considered responsible for championing comprehensive health and wellness programming for students given their heightened health-related knowledge and role expectations within the school setting (McKenzie & Lounsbury, 2013). Maras et al. (2014) also found within the school context that “the school health nurse was most commonly identified as being responsible for [student] health promotion, followed by the physical education teacher (4).” Given the study findings and relevant literature, health and physical education teachers presumably had the highest personal health and role perceptions because these individuals are inherently interested in health as well as are employed in a position that carries both personal and organizational expectations to promote student health. In other words student health is considered an in-role expectation of health and physical education teachers and as such they are charged with participating in it more extensively. Whereas teachers in other disciplines (i.e. math, fine arts, etc.), despite the common recommendation that all teachers be woven into the framework of student health , may not have precursory interest or expertise in health as well as have limited personal and organizational role expectations for promoting student health.

Morgeson et al. (2005) provides additional explanation that role breadth may in fact serve an alternative function as a mediator between role efficacy and actual role engagement instead of as a direct influence. This would mean that as teachers increasingly consider student health as in-role they would become more likely to actually participate in student health promoting behaviors given an existing capacity to do so. Results from this study may initially support this suggestion as teachers in this sample presented much higher levels of perceived role efficacy than role breadth despite a significantly good correlation. A mediation relationship would also not be contrary to findings by Mazzer and Rickwood (2015) which purported role breadth and role efficacy as simultaneously correlated and good predictors for engagement in student health. This is important because regardless of how perceived role breadth leads to action, teachers who lack it may not be in a position nor expected to successfully contribute to a total integrative school health framework.

Schools may further improve teacher engagement in the promotion of student health by taking steps to encourage teaching staff to consider student health promotion as an in-role responsibility. Recommendations for enhancing roles may include personal factors such as interest in health as identified by this inquiry, but may also occur as a result of organizational level factors. Hoyle et al. (2008) and Parcel et al. (1988) describe strategies schools may adopt to accomplish this goal. Institutional leadership must first establish a commitment to student health and flexible structures that allow for and promote “shared responsibility of [many individuals within] the educational community (Hoyle et al., 2008, 2; Parcel et al., 1988).” This includes, but is not limited to, buy-in from the school health coordinator, the school nurse, the administration, the board of

education, and teachers, who are many times on the front line regarding general student health and well-being (Mazzer & Rickwood, 2015; Reinke et al., 2011; Walcott et al., 2008). At this juncture, it is important to note that each of these members of the educational community holds varying degrees of expertise and capacity that include greater or more limited roles in the promotion of student health and wellness. To note, this inquiry considers teacher involvement as specific to general health promotion activities and supplementary to the services offered by professionally trained school health personnel. Schee and Gard (2014) and Flaspohler et al. (2012) further argue that school personnel who are not interested, willing, and able to take on more extensive personal or organizational roles in support of student health may find such requirements burdensome and explicitly external to their specified roles within the school setting. As a result, policies associated with school-wide health approaches should be flexible, but specific enough to assist teachers in learning general health promotion knowledge and techniques, providing teachers opportunities to become more involved (i.e. committees), and outlining appropriate referral procedures for student health situations that require it. The availability of adequate resources (i.e. fiscal resources, professional health staff, referral opportunities, and external relationships) and “imbedded professional development” and student health-related training should also be considered key components for preparing teachers to support general student health and well-being by considering it an in-role responsibility (Hoyle et al., 2008; Parcel et al., 1988).

Recommendations for Further Study

While this study did result in some significant and important results, many questions remain. Overall, findings from this study suggest that teacher perceptions of

their own health and their role perceptions for engagement in student health promotion are related. However, these relationships appear complex, inclusive of multi-level influences, and provide little evidence of actual positive effects on students. Therefore, to better identify outcomes, future research could consider a wider breadth of both personal and extrapersonal variables when assessing teacher health and wellness and its possible relationships to student health. Most limiting to this study is that the bulk of assessment was dedicated only to teacher cognitive perceptions. Future study may attempt to identify links between actual participation in school-site health and wellness opportunities and how it contributes to perceptions as well as other indices of personal health. In conjunction, research could include techniques to determine if and how participation in healthy behaviors by teachers leads to actual engagement in student health promoting behaviors. The potential for this type of relationship may hinge on factors relevant to the implementation and quality of available school-site health and wellness programming, two areas vitally important to enhancing participation rates in worksite wellness programming. Additional consideration for untangling teacher perceptions and behaviors related to health may include school culture, funding, and environmental measures, types of pre- and in-service training received by teaching staff, available school supports, and teacher health knowledge among others. A diversified sample, including teachers from different racial, ethnic, locale, educational, and other backgrounds may have different health-related perceptions and may form role perceptions for student health in different ways. This study also only considered the perceptions of role breadth and role efficacy for health as a general construct as vital to the formation of teacher roles for student health. Future research may also seek to identify what specific types of health and

wellness teachers feel most comfortable engaging in with students (i.e. mental health, social health, nutrition, physical activity, etc.). Assessment of the perceptions of role instrumentality and role discretion, two additional role determinants identified in the literature, may also provide further context for untangling the relationship between teacher health and wellness and its possible effects on student health. A final recommendation for further study would be to identify actual student health outcomes associated with school-site health and wellness programming, teacher health and wellness, and teacher roles for and engagement in student health. The true purpose of CSHP and inclusion of components such as school-site health and wellness opportunities for teachers is meant to enhance not only the total school health environment, but ultimately the health and wellness of each student within it.

Appendix

I. Research Request and Summary for Recruitment

District

Email

Greetings <Name>,

Please consider this correspondence as a formal request for permission to engage in research at your institution. The aim of the research inquiry is to investigate relationships amongst perceived school-site health and wellness opportunities, personal health variables and perceived role perceptions regarding student health. The study has a primary focus on the teacher population. Prior to engaging in research, the study will be approved by the University of Missouri (MU) Institutional Review Board (IRB). The proposed study will be carried out via an online questionnaire format. Once approved, the researcher will provide an introduction and questionnaire link to applicable institutional staff. It is requested that the institution circulate the provided information via email to all teaching staff at the institution. An incentive for the random drawing of one of three \$50.00 gift cards will be provided to encourage subject participation. It should be noted that participation in the study is restricted to school staff and is considered completely voluntary. Any and all data collected pertinent to this study will remain anonymous. At any time your institution may discontinue participation in the above described research without penalty or repercussion.

Please note that should the district be interested in the results of this inquiry, the provision of the aggregate result and final manuscript may be made available upon request by the district.

In addition, it is requested that you provide a formal letter of support granting permission to engage in research at your institution. This letter of support will be included in the materials submitted to the MU IRB for study approval. A brief proposal for the above mentioned research is enclosed.

If you have any questions or concerns regarding your institution's participation in this study, please contact Charles Brunette (BrunetteC@missouri.edu / 573-882-3240), Dr. Alex Waigandt (WaigandtA@missouri.edu) or the MU Office of Research (irb@missouri.edu / 573-882-3181).

Thank you for your attention to this request. I look forward to working with your institution.

Sincerely,

Charlie

Charles Brunette
Doctoral Candidate

*School-Site Health and Wellness, Health-Related Variables and Student Health
Research Proposal*

Introduction and Significance of the Study:

Currently, student health within the educational environment is an important topic. It is also well known that education and health are intricately linked, where healthier students are better learners and more educated individuals become healthier adults. Various methods for improving the health of students in the educational setting have been recommended by the Centers for Disease Control's (CDC) Coordinated School Health Program, the newly developed Whole School, Whole Community, Whole Child Model and The U.S. Department of Health and Human Services Healthy People 2020 initiatives. These approaches take a comprehensive approach to student health and attempt to address a variety of health issues in students. One of the less prominent implemented components of these approaches is the concept of school-site health and wellness opportunities for faculty and staff and its relationship to student health. Many researchers have proposed that teachers who are more interested and able to engage in healthy behaviors are more interested at promoting health in their students. Despite the presumption, little research is available to support this claim. This study will seek to help validate that school-site health and wellness opportunities are not only positively associated with health-related variables in teachers, but may also serve as a mechanism for teachers to take on roles to improve the health of students.

Purpose:

The purpose of this inquiry is to assess the relationship between perceived health and wellness opportunities, personal health-related variables (i.e. health status, personal interest in health and perceived health competence) and perceived role perceptions for engagement in student health.

Sample:

The proposed study will seek to obtain the data described above in a sample of teachers. Teachers have a great amount of contact with and influence on the student population. Therefore, it is presumed that teachers may be in the best position to deliver general health education, promotion and interventions within the school setting.

Collection of the Data:

Request for permission to engage in research at various school districts in the state of Missouri will be made. Once obtained, data will be collected via an online questionnaire to be disseminated through district email.

Results and Implications:

Results from this inquiry will be used as part of a dissertation and may be used in future publications. Any and all results will be made available upon request pending completion of the study. Potential implications of the research concern both staff and student health and wellness.

II. Consent and Questionnaire

RESEARCH STUDY – REQUEST FOR PARTICIPATION

UNIVERSITY OF MISSOURI

THE CONTRIBUTION OF SCHOOL-SITE HEALTH AND WELLNESS OPPORTUNITIES, PERSONAL INTEREST IN HEALTH AND PERCEIVED HEALTH COMPETENCE TO HEALTH-RELATED ROLE PERCEPTIONS IN TEACHERS

The purpose of the following questionnaire is to collect data for university research. The current study will seek to understand your thoughts and feelings about health and wellness services offered by your district, how you feel about your own health status, and your thoughts on how your role as a teacher may impact students' health and wellness. A section has been included to obtain your personal demographic information; however, no personally identifying information will be made available to the researcher, or anyone who reads this study. Participation in this study is completely voluntary and your responses to all questions will remain anonymous. Your anticipated time commitment for participation in this study is approximately 15 – 20 minutes. There are no risks; such as job demotion or loss, the release of personal information, or the identification of you or others associated with this study. Please note that if at any time you wish to discontinue participation in this study, you may do so without fear of repercussion from anyone. Your employer will not be provided the names of participants or the raw data associated with the study, so there will be no harm to your job status as a teacher by participating in this research opportunity. When you complete the survey, you will be given the opportunity to enter your email address to be used for random selection of one of three \$50 gift cards. Please know that your email address will not be associated with any of your questionnaire responses. Any and all information obtained via your participation in this study will be protected by the researcher and will be used for research purposes only. No personally identifying information will be included in the results or publication of this study. Please note that your participation in this study is much appreciated. If you have any questions or concerns regarding your participation in this study, please contact Charles Brunette (*BrunetteC@missouri.edu* / 573-882-3240), Dr. Alex Waigandt (*WaigandtA@missouri.edu*) or the Campus Institutional Review Board directly by telephone 573-882-9585 or by email:*umcresearchcirb@missouri.edu* if you have questions about your rights, concerns, complaints or comments as a research participant.

INCLUSION CRITERIA - JOB TITLE

1. What is your job title at the school? (In which role do you spend most of your time?)
 - a. Teacher
 - b. Administrator
 - c. Other Staff

(Faculty and Staff Health Promotion School Questionnaire – Public Use Version, 2014)

HEALTH PROMOTION ACTIVITIES AND SERVICES

2. During the past 12 months, has your school offered the following health screenings for faculty and staff?

Services	Yes	No
a. Oral health screening	1	2
b. Body mass index, or BMI screening	1	2
c. Serum cholesterol screening	1	2
d. Blood pressure level screening	1	2
e. Diabetes screening	1	2
f. Skin cancer screening	1	2
g. Breast cancer screening	1	2
h. Colorectal cancer screening	1	2

3. During the past 12 months, has your school offered activities (including classes, workshops, distribution of materials or group sessions) for faculty and staff related to the following?

Activity	Yes	No
a. Nutrition education	1	2
b. Weight management	1	2
c. Worksite safety education	1	2
d. Emergency preparedness	1	2
e. Infectious disease prevention	1	2
f. CPR education	1	2
g. First aid education	1	2
h. Stress management education	1	2
i. Pre- or post natal education	1	2
j. Conflict resolution education	1	2
k. Asthma management education	1	2

- | | | | |
|----|---|---|---|
| l. | Diabetes management education | 1 | 2 |
| m. | Tobacco cessation education | 1 | 2 |
| n. | Physical activity and fitness counseling | 1 | 2 |
| o. | Counseling for emotional disorders, such as anxiety or depression | 1 | 2 |
| p. | Crisis intervention for personal problems | 1 | 2 |
4. During the past 12 months, have any physical activity programs, such as aerobics classes, basketball leagues, or walking or jogging clubs been offered to your school's faculty and staff?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
5. Are any indoor or outdoor school facilities or equipment that could be used for physical activity, such as a gym, cafeteria, swimming pool, weight-lifting equipment, and cardiovascular exercise equipment made available for your school's faculty or staff to use?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
6. During the past 12 months, has your school provided health risk appraisals (used to assess self-reported risk factors, such as smoking and physical activity) for faculty and staff?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
7. Do your school's faculty and staff receive any subsidies or discounts for off-site health promotion activities, such as health club memberships, weight loss programs, or tobacco use cessation programs?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

(Faculty and Staff Health Promotion School Questionnaire – Public Use Version, 2014)

PERSONAL INTEREST IN HEALTH

8. Please indicate your agreement with each statement on a scale from 1 (not at all true) to 5 (very true)

Statement

- a. Health information is practical for me to know.
- b. Health information helps me in my daily life outside of school.
- c. It is important to me to be a healthy person.
- d. Being healthy is an important part of who I am.
- e. I enjoy learning about health.
- f. I like the topic of health.
- g. I enjoy being healthy.
- h. The topic of health is exciting to me.

(Individual Interest Scale, Linnenbrink-Garcia et al., 2010, Original Questionnaire used to assess interest in math)

PERCEIVED HEALTH COMPETENCE

9. Please indicate your agreement with each statement on a scale from 1 (not at all true) to 5 (very true)

Statement

- a. I handle myself well with respect to my health.
- b. No matter how hard I try, my health just doesn't seem to turn out the way I would like. (REVERSE)
- c. It is difficult for me to find effective solutions to health problems that come my way. (REVERSE)
- d. I succeed in the projects I undertake to improve my health.
- e. I'm generally able to accomplish my goals with respect to my health.
- f. I find my efforts to change things I don't like about my health are ineffective. (REVERSE)
- g. Typically, my plans for my health don't work out well. (REVERSE)
- h. I am able to do things for my health as well as most other people.

(Perceived Health Competence Scale, Smith, Wallston, & Smith, 1995; Smith, Dobbins, & Wallston, 1991)

PERCEIVED HEALTH STATUS

10. How would you rate your overall health at the present time?

- a. Excellent
- b. Very Good
- c. Good
- d. Fair
- e. Poor

(Included on CDC HRQoL Measure, Bowling, 2005, Smith, Wallston and Smith, 1995; Pender et al., 1990 – Suggest single item measure just as accurate as multi-dimensional measures).

PERCEIVED ROLE BREADTH

11. Please indicate whether each behavior is an expected part of your job as a teacher ranging from 1 (“not part of my job”) to 7 (“absolutely part of my job”).

Please note that the researcher is not interested in whether you actually perform these behaviors, but rather whether you yourself see them as part of your job.

- a. Provide students with information about risks or benefits of particular health-related topics.
- b. Emphasize the amount of control students have over their own health.
- c. Use technology or other visual symbols to convey health information.
- d. Provide statistical data on health risks.
- e. Encourage students to have self-responsibility for health.
- f. Invite guest speakers to present information on health topics.
- g. Tell realistic stories about the positive or negative consequences of certain health practices.
- h. Provide health information using bulletin boards or wall space.
- i. Provide role playing opportunities about resisting peer pressure.
- j. Provide role playing opportunities about problem solving.
- k. Discuss positive or negative consequences of certain health practices with students.
- l. Provide opportunities for students to discuss health topics.
- m. Provide students with individualized feedback about his or her performance in attempting a health task.

- n. Encourage students to repeat positive rather than negative phrases to themselves.
- o. Encourage students to be persistent in their attempts to practice healthy behaviors.
- p. Help students identify barriers to changing their health practices.
- q. Discuss with students ways to overcome barriers to changing their health practices.
- r. Assess the health behaviors of students using self-monitoring, self-reporting or other techniques.
- s. Help students set realistic goals to change health behaviors.
- t. Suggest health goals to students which are long-term, flexible and reasonable.
- u. Chart student's progress toward a health goal.
- v. Attribute the success or failure of students to their level of effort in attempting a specific health task.
- w. Provide rewards (certificates, verbal praise, etc.) to each student who is successful in reaching a particular health goal.
- x. Encourage students to praise one another for their successes, and to avoid insulting or ridiculing those who are less successful.
- y. Encourage students to choose friends who will encourage them to reach their health goals.
- z. Encourage students to tell their parents and other family members about their health goals so family members can provide encouragement.

(Kingery et al., 1994; McAllister et al., 2007; Morrison, 1994)

PERCEIVED ROLE EFFICACY

12. Please indicate your ability to perform each of the following behaviors as a teacher ranging from 1 ("completely certain I could not") to 7 ("completely certain I could").

Please note that the researcher is not interested in whether you actually perform these behaviors, but rather whether you feel able to perform them.

- a. Provide students with information about risks or benefits of particular health-related topics.
- b. Emphasize the amount of control students have over their own health.
- c. Use technology or other visual symbols to convey health information.
- d. Provide statistical data on health risks.

- e. Encourage students to have self-responsibility for health.
- f. Invite guest speakers to present information on health topics.
- g. Tell realistic stories about the positive or negative consequences of certain health practices.
- h. Provide health information using bulletin boards or wall space.
- i. Provide role playing opportunities about resisting peer pressure.
- j. Provide role playing opportunities about problem solving.
- k. Discuss positive or negative consequences of certain health practices with students.
- l. Provide opportunities for students to discuss health topics.
- m. Provide students with individualized feedback about his or her performance in attempting a health task.
- n. Encourage students to repeat positive rather than negative phrases to themselves.
- o. Encourage students to be persistent in their attempts to practice healthy behaviors.
- p. Help students identify barriers to changing their health practices.
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- r. Assess the health behaviors of students using self-monitoring, self-reporting or other techniques.
- s. Help students set realistic goals to change health behaviors.
- t. Suggest health goals to students which are long-term, flexible and reasonable.
- u. Chart student's progress toward a health goal.
- v. Attribute the success or failure of students to their level of effort in attempting a specific health task.
- w. Provide rewards (certificates, verbal praise, etc.) to each student who is successful in reaching a particular health goal.
- x. Encourage students to praise one another for their successes, and to avoid insulting or ridiculing those who are less successful.
- y. Encourage students to choose friends who will encourage them to reach their health goals.
- z. Encourage students to tell their parents and other family members about their health goals so family members can provide encouragement.

(Kingery et al., 1994; McAllister et al., 2007; Morrison, 1994)

DEMOGRAPHIC INFORMATION

13. Please select the option that best reflects your gender.

- a. Male
- b. Female
- c. Other

14. Please specify your ethnicity.

- a. Hispanic or Latino
- b. Not Hispanic or Latino

15. Please specify your race (choose all that apply).

- a. American Indian or Alaska Native
- b. Asian
- c. Black or African American
- d. Native Hawaiian or Other Pacific Islander
- e. White

16. As a school faculty member, please select the option that best reflects the grade levels you serve.

- a. Grades K – 5
- b. Grades 6 – 8
- c. Grades 9 – 12

17. Please select the option that best reflects your location.

- a. Rural
- b. Suburban
- c. Urban

18. If applicable, please indicate your primary teaching area of emphasis.

- a. English / Literature
- b. Math
- c. Science
- d. Health / Physical Education
- e. History / Social Studies / Social Sciences
- f. Fine Arts
- g. Practical Arts / Vocational
- h. Elementary Education
- i. Special Education
- j. Other
- k. Two or more areas of emphasis.

19. Please select the option that best reflects your level of education.

- a. Less than a high school diploma.
- b. High school diploma.
- c. Some college, but no degree.
- d. Associate's Degree
- e. Bachelor's Degree
- f. Master's Degree
- g. Doctoral Degree

20. Please provide your total number of years of service as a school employee.

a. _____ Years of Service

21. Please provide your current age in years.

a. _____ Years of Age

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Vita

Charles Albert Brunette was born in Cheyenne, Wyoming on September 25, 1986. He is the son of Thomas G. Brunette and the former Deborah E. Muetze. Charles resided most of his young life in Fulton, Missouri and graduated from Fulton High School in 2005. Upon graduation Charles attended Truman State University in Kirksville, Missouri where he participated on the men's intercollegiate football team and graduated summa cum laude with a Bachelor of Science degree in Exercise Science in 2009. In 2011, Charles graduated from the University of Missouri, Columbia with a Master of Science degree in Parks, Recreation, and Tourism. Charles is currently a doctoral candidate in the School of Education at the University of Missouri, Columbia in the Department of Educational, School, and Counseling Psychology where he has chosen a specialization in Health Education and Promotion.

Professionally, Charles was granted a graduate assistantship in the University of Missouri Department of Intercollegiate Athletics Compliance Office in January of 2010. Charles was promoted to the Administrative Compliance Coordinator in July of 2011. Charles was promoted for a second time July of 2012 and currently serves as Assistant Director for Compliance. Charles also served as an adjunct instructor in the Department of Parks, Recreation, and Tourism from fall 2013 through fall 2015.