The Teacher Attitudes toward Homeless Students Scale: Development and Validation

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THE TEACHER ATTITUDES TOWARD HOMELESS STUDENTS SCALE:
DEVELOPMENT AND VALIDATION

Dissertation
by
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of the requirements for the degree of
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ABSTRACT

THE TEACHER ATTITUDES TOWARD HOMELESS STUDENTS SCALE: DEVELOPMENT AND VALIDATION

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Recent estimates suggest there are roughly 1.6 million homeless children and this number is growing (National Center on Family Homelessness, 2011). This trend is particularly worrisome given that homeless children face a number of obstacles within society and education, not the least of which is negative teacher attitudes (Swick, 2000; U.S. Department of Education, 2002).

This study’s primary research question addressed whether a set of underlying dimensions could be identified and used to effectively measure teacher attitudes toward homeless students. A necessary part of answering this research question involved the development of a measurement scale. Both Classical Test Theory and Item Response Theory analyses aided in the elimination process of items in order to create the final Teacher Attitudes toward Homeless Students (TAHS) assessment, which includes an attitudes scale and subscales, and a related knowledge scale. The final outcome was a set of 43 items, across eight dimensions, which could effectively be used to measure teacher attitudes toward homeless students. Additionally, the findings upheld the principles of Rasch measurement, including unidimensionality, a hierarchical ordering of items, and a continuum of the construct definition. In other words, the findings indicate that the TAHS scale was successfully developed according to explicit a priori measurement criteria. Moreover, additional correlational and regression analyses provided empirical construct and convergent validity evidence for the TAHS scale.
It was also found that attitudes differed slightly for teachers of various backgrounds and experiences, but when analyzed collectively these variables were not significantly related to teacher attitudes toward homeless students. Additionally, there was only a weak relationship between teachers’ attitudes and their knowledge about homelessness.

Overall the TAHS scale allows for reliable and accurate measurement of teacher attitudes toward homeless students from which valid inferences can be made. The TAHS scale scores and score descriptors can be used to help teacher interpret their attitude. This has the potential for a direct impact in creating equal educational opportunities for homeless students as teachers become aware of their attitude and make positive changes.
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CHAPTER ONE: INTRODUCTION

Over the last few decades the number of homeless individuals and families has increased dramatically, with families that have children representing the fastest-growing segment of the homeless population (Buckner & Rog, 2007; National Coalition for the Homeless, 2009; U.S. Conference of Mayors, 2009; U.S. Department of Housing and Urban Development, 2010). Recent estimates indicate that there are roughly 1.6 million children without homes in a given year, which reflects a 38 percent increase in the number of children experiencing homelessness since 2007 and the beginning of the Great Recession (National Center on Family Homelessness, 2011). Since this time many states reported substantial increases in the number of homeless children from the 2006-07 to 2008-09 school year, with a collective increase of about 50 percent, but as much as 91 percent in some states (Curran, 2010; Lovell & Duffield, 2010). Meanwhile, school districts reported a 17 percent increase in the number of school-age homeless students during the 2007-08 school year from the previous year (Lovell & Duffield, 2010).

These drastic increases in the number of homeless children are particularly worrisome given the well-documented reality that children and youth experiencing homelessness face a number of obstacles within society, including attending and succeeding in school (NCFH, 2009; National Coalition for the Homeless, 2009; Stronge, 2000). This chapter briefly documents many of the negative effects associated with homelessness on the lives of children and describes many of the barriers to education that homeless children face, including legal and bureaucratic barriers to enrollment, practical barriers to attendance and achievement, and school- and family-mediated barriers to enrollment, attendance, and achievement. However, the focus of this study is on one specific school-mediated barrier to homeless students’ success in school—negative teacher attitudes toward homeless students.
Background of the Problem

State coordinators and local education agencies have cited a lack of awareness and insensitivity to homeless students’ needs among school staff as a barrier that could delay or prevent homeless children from enrollment and succeeding in school (U.S. Department of Education, 2002). As one expert in the realm of homeless asserts, negative attitudes toward homeless students may pose one of the strongest impediments to homeless students’ success in school (Swick, 2000). Although the number of teachers with negative attitudes toward homeless students is currently unknown, teachers are susceptible to negative orientations toward homeless students. Their susceptibility stems from established cultural values, which have persisted over the last few decades as homeless populations rose, and misunderstandings of the extent and ramifications of homelessness for children.

Negative orientations toward homeless students are likely for teachers, since they, like all members of society, are exposed to negative perceptions of homelessness in our culture that often views homelessness as a reflection of individual weakness and defect, rather than symbolic of social injustice (Kozal, 1988; Min, 1999). These views are highlighted in a study that found the general public misunderstands the extent of and reasons for homelessness, providing underestimates of the number of homeless families and predominantly asserting individualized reasons for homelessness, including drug abuse (Fannie Mae, 2007). However, societal forces are the primary reasons for growing rates of homelessness among families, including poverty and lack of affordable housing (NCFH, 2009).

Given these misguided cultural values and misunderstandings of homelessness, it is not surprising that evidence shows that some teachers evaluate homeless children as more difficult than non-homeless children, especially boys (Nabors et al., 2005). Additionally, because
homeless students are often isolated from school contexts and seen as outside of the school culture, in many cases teachers view homeless students negatively (Anooshian, 2000). These negative attitudes and misunderstandings may manifest as negative prejudice. Theoretical reasoning and empirical evidence provide that teachers’ attitudes impact students in countless ways, including in their teaching strategies, expectations for students, and in interactions with their students (Bucher, 2000; Coach, 1998; Sakaris, 1999). From this perspective teacher attitudes are viewed as a potential and serious barrier to the educational success of homeless students. This notion of the impact of teachers’ attitudes and expectations on homeless students provides the foundation for this study’s theoretical framework, and is discussed at length in the next chapter.

The federal response aimed at alleviating barriers to the educational opportunities and success of homeless children—the McKinney-Vento Homeless Assistance Act (Title VII, reauthorized as part of the No Child Left Behind Act in 2001)—addresses many of the most obvious barriers, including transportation and student records, yet does not directly address teacher insensitivity. The law requires training of local homeless education liaisons who are required to inform school personnel about issues of homelessness in education, however teachers and other school staff are not required by law to participate in any type of sensitivity and awareness training specific to the education of homeless students.

Given the important role that teachers can play in the lives of homeless students, and the lack of legal pressure to address the issue, it is important to attend to teachers with negative attitudes toward homeless students in other ways. Experts in the field encourage teachers to not only engage learners in challenging their understandings of justice and equality (Greene, 1998), but also to be self-reflective learners (Swick, 2004) and see homeless children as capable and
competent to participate in and influence their lives and that of others (Klein, Bittel, & Molnar, 1993). As Zeichner (1993) suggests, a starting point for strengthening teachers’ orientation toward marginalized children is through a social justice framework, which begins with reflection on one’s attitudes and orientation relating to homeless children and families. Similarly, behavioral change theory supports that in order to bring about change a person must first recognize some “behavior” in which he engages, be it a set of thoughts, images, physiological or behavioral responses (Meichenbaum, 1977). A person’s “recognition” is a necessary but not sufficient condition to bring about change—there is a multifaceted process that one must progress through—but recognition is an essential first step in the behavioral change process.

Extending this theory to the classroom provides that teachers who are cognizant of their negative prejudice can overcome it, with help, and afford homeless children the equal educational opportunity that they deserve. This recognition and behavior modification process can help to ensure that teachers with negative attitudes will not continue to act as yet another barrier to homeless students’ achievement and development. However, teachers are in need of an aid to help them recognize their attitude toward homeless students, as there currently is not a reliable and efficient way for them to do so.

Statement of the Problem

Despite the established importance of the measurement of teacher attitudes toward homeless students, the current literature does not include an appropriate, quantitative measure of this topic. To the best of this author’s search capabilities, an instrument that supports well-validated inferences does not currently exist and current related scales are inappropriate for measurement of this construct, as these instruments do not specifically concern homeless
students in all grades. A number of empirical dissertations have investigated teachers’ attitudes toward homeless students (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004), yet their results have limited generalizability given their selective samples and lack of measurement information. The intention of these researchers was not to construct a strong instrument to measure this construct, but instead to use a cross-sectional or longitudinal approach to describe teachers’ attitudes in a specific context. Additionally, the two studies that created their own scales (Cartner, 2007; Coach, 1998), as opposed to using preexisting scales measuring attitudes toward the general homeless population, do not disclose information pertaining to their scales’ psychometric properties. Such information is essential to ensure the validity of inferences made from the results. The research presented here references and expands upon these studies that previously aimed at expanding the relatively minimal literature on this topic.

The literature does include two major, psychometrically sound scales related to this study—the “public attitudes toward homelessness” (PATH) scale, a short five-item scale developed by Guzewicz and Takooshian (1992), and an “attitudes toward the homeless inventory” (ATHI), consisting of 11 Likert items developed by Kingree and Daves (1997). Although these instruments have demonstrated their usefulness in certain settings, they are not appropriate for the measurement of teacher attitudes toward homeless students. First, the intentions of the PATH and ATHI scales are to measure the general public’s opinions and attitudes toward the general homeless population. These instruments do not intend to measure attitudes toward distinct types of homeless individuals, such as homeless students, which are the focus of this study. Although the PATH and ATHI instruments may be useful for meeting the purpose of measuring the general public’s attitudes toward the homeless, especially the urban
homeless population, they are not appropriate to measure and fully understand teacher attitudes toward homeless students.

Additionally, the aforementioned instruments are not suitable to meet the purpose of this study given that their validations are based on specific samples, including a Hawaiian Island (Coach, 1998), the Denver area (Torres, 2004), western and central parts of Texas (Cartner, 2007), two counties in the northeast (Sakaris, 1999), New York City residents (Guzewicz and Takooshian, 1992), and college students and low-income Georgia residents seeking substance abuse treatment (Kingree & Daves, 1997). The application of an instrument constructed using these samples is not appropriate to measure teachers’ attitudes toward homeless students because they were either not constructed using respondents representative of the teaching profession or they are too limited in their sample to yield generalizations to a broader population of teachers in all grades. In order to yield the most valid inferences and interpretations from instruments measuring teacher attitudes, a diverse sample of teachers must be used in the development and validation process, which was the intent of this study.

The aforementioned instruments provided a foundation for the development of the assessment created in this study; however their limitations provided further justification for creating a new measure. The lack of other relevant instruments measuring the construct of teachers’ attitudes toward homeless students provides that this research is distinctive and worthwhile in an area that has been under-researched in a quantitatively sound manner. Furthermore, few qualitative studies have systematically investigated this topic, no doubt due to the difficulty in efficiently measuring a construct such as this, and due to the time and cost associated with qualitative measures. The limited generalizability and lack of efficiency of qualitative measures, such as case studies, interviews, and observations, provide further
justification for an efficient, quantitative measure of this topic that can offer greater validity, reliability, and generalizability than both previous related quantitative or qualitative instruments.

Purpose of the Study

As experts in the field of homeless education and teacher prejudice assert, this study addressed an important shortcoming related to the measurement of attitudes in educational settings, specifically, in the measurement of teacher attitudes toward homeless students (Swick, personal communication, November 23, 2009; Powers-Costello, personal communication, November 23, 2009; Bedell, personal communication, November 23, 2009). In an effort to fill this void in the literature and promote social justice in the classroom, the purpose of this dissertation was to create an efficient, reliable scale that provides the basis for valid inferences regarding teachers’ attitudes toward homeless students. While the creation of this scale and the broader assessment in which it is contained—the Teachers’ Attitudes toward Homeless Students (TAHS) assessment—addressed the established shortcoming in the field, the value of the scale and the assessment are in their application.

In addition to creating the TAHS assessment, this dissertation also provides materials accompanying the assessment, including score interpretations, and suggested actions and resources for teachers to alleviate their negative prejudice. These materials can be used to assist teachers in understanding their attitude toward homeless students and help teachers with negative attitudes to positively strengthen their perceptions. Given that one of the strongest impediments to homeless students’ success in school may be facing teachers who hold negative attitudes toward them (Swick, 2000), the utility of the TAHS assessment resides in its potential to serve as the essential first step in this behavior modification process.
Overview of Literature

This section highlights some of the relevant literature that is covered in-depth in Chapter Two. The main topics discussed in the Literature Review include homelessness, issues in education for homeless students, efforts to measure attitudes toward the homeless and the measurement theory used in this study. These topics are briefly presented here.

Homelessness

Homelessness is not a fringe issue: homelessness affects a diverse group of people, including young children. Families with children are among the fastest growing segments of the homeless population (NCH, 2009). Rates of homelessness among families with children are steadily increasing to estimates of more than 1.6 million children who experience homelessness each year—the highest figure in our nation’s history (NCFH, 2011). Translating this figure provides that roughly one out of every 45 children is homeless. These children endure a lack of everyday comforts that a stable home provides, including feelings of safety, privacy, and a sense of community. These factors, in addition to inadequate health care, interrupted schooling, and unstable relationships, combine to create a life-altering experience that inflicts profound and lasting effects (NCFH, 2009).

Homelessness & Issues in Education

Despite the best intentions of the McKinney-Vento Act, a federal, equal educational opportunity mandate for homeless students, children without homes face considerable challenges in obtaining an equitable and adequate education. Homeless students face many legal and bureaucratic barriers in gaining access to school, including not having the documents ordinarily required for school enrollment. In some cases, the lack of documents such as previous school records, medical or immunization records, proof of residency, birth certificate, proof of
guardianship, or other documents can delay a child’s enrollment for weeks (National Center for Homeless Education; National Association for the Education of Children and Youth; National Law Center on Homelessness and Poverty, 2008a).

Once homeless students are enrolled in school, they also face many practical and school- and family-mediated barriers to success in school, including family mobility, poor health, and lack of food, clothing, and school supplies (NCHE, NAECY, & NLCHP, 2008a; Newman, 1999). The 2001 reauthorization of the McKinney-Vento Act (reauthorized as part of the No Child Left Behind Act) addressed many of these issues, but due to a lack of funding, they have not been fully remedied. Additional barriers identified in a survey of service providers and shelter operators include the substantial difficulties homeless children face in being evaluated for special education programs and services, participating in after-school events and extracurricular activities, obtaining counseling and psychological services, and accessing before- and after-school care programs (NLCHP, 1995).

Related to these barriers, which impede a homeless student’s success in school, research suggests that homeless students may also face school-mediated barriers including teacher prejudice, not being valued by their teachers, and a lack of awareness and insensitivity to homeless students’ needs among school staff (Newman, 1999; Powers-Costello & Swick, 2008, U.S. Department of Education, 2002). Indeed, one of the strongest impediments to homeless students’ success in school and being valued by their teachers may be facing teachers who hold negative attitudes toward them because they are homeless (Swick, 2000), as oftentimes teachers have little insight into the authentic situations of children and parents who are homeless (Powers-Costello & Swick, 2008). As a result, characteristics of homeless students, such as poor clothing and hygiene, inability to be part of school functions (often due to a lack of transportation), poor
homework completion (due to a lack of resources and places to study), poor school attendance, and a lack of social skills, represent barriers to homeless children being valued by their teachers (Anooshian, 2000).

The negative attitudes expressed by teachers toward homeless students can be characterized as ethnic prejudice, defined as an “antipathy based upon a faulty and inflexible generalization. It may be felt or expressed. It may be directed toward a group as a whole, or toward an individual because he is a member of that group” (Allport, 1954, p.9). As Allport explains, “the net effect of prejudice, thus defined, is to place the object of prejudice at some disadvantage not merited by his own misconduct” (p. 9). It is this definition of negative ethnic prejudice that extends to homeless students in this study, although it is acknowledged that they are not an ethnic group per say, but rather a marginalized group subject to negative prejudice.

Measurement of Attitudes toward the Homeless

The measurement of attitudes is complex, especially socially undesirable attitudes toward a marginalized group. Past research has attempted to measure this complex construct, including unidimensional scales assessing medical professionals attitudes toward the homeless (Lester & Pattison, 2000) and both unidimensional and multidimensional scales addressing the general public’s attitude toward the homeless (Lee, Jones & Louis, 1990; Toro & McDonnell, 1992; Guzewicz & Takooshian, 1992; Kingree & Daves, 1997). These studies found that public opinions on the homeless vary widely and that these attitudes are associated with demographic differences, including one’s gender, age, education, income, religion, ethnicity, and urban location. Scales measuring teachers’ knowledge of and attitudes toward homeless students (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004) also found that teachers’ attitudes
vary, while most are positive, and that certain characteristics (e.g., age and teaching experience) are associated with differing attitudes.

A consistent finding from the literature is that measuring attitudes toward the homeless is complex and is best assessed using a multidimensional approach. The use of multiple dimensions allows for measurement of the many facets of attitudes related to homelessness. Although there is no formal agreement on the most important dimensions underlying attitudes toward the homeless, there are predominant themes across the literature. These include “attribution” (personal or societal causes of homelessness); “solutions/support” (there are viable solutions to homelessness and ways to support the homeless); and “experience with/affiliation” (experience with the homeless and willingness to affiliate with the homeless).

Another facet applicable to this research arose in one study of attitudes toward the homeless (Phelan, Link, Stueve & Moore, 1995) and was coined “tolerance” by the authors, which refers to the public’s perceptions of what homeless people are like and their understandings and knowledge of the characteristics of the homeless. Similarly, this facet was included in the “Teacher Knowledge and Attitudes Scale” (Cartner, 2007), which focused on teachers’ perceptions and academic expectations of homeless students. This study and the other similar studies discussed in the previous section (Coach, 1998; Sakaris, 1999; Torres, 2004) provided additional relevant themes specifically relating to homeless students, including “education environments”, “educational and social services”, and “academic expectations” for homeless students, as well as teachers’ knowledge of the McKinney-Vento legislation.
Construct Definition

The aforementioned studies and the other relevant literature discussed throughout the above section have major themes and concepts in common that are applicable to the TAHS scale. These concepts are categorized into the following themes (in italics) and dimensions (in bold), which are discussed at length in the next chapter. These dimensions collectively represent the construct definition in this study and represent the important themes relating to teachers’ attitudes toward homeless students, but their purpose is simply to categorize the dimensions—they are not intended to be used for score reports as only one attitude score is produced by the TAHS scale.

*General homeless issues:* This includes respondents’ beliefs regarding two dimensions relating to the *attribution of homelessness*: personal or societal. The public and teachers tend to vary in their attribution of homelessness, which often reflects societal shifts and knowledge of the issue. This theme also includes another dimension measuring respondents’ willingness to affiliate with those who are homeless since teachers are required to interact with students from a variety of backgrounds.

The second theme arising from the literature is *perceptions of homeless students*. This theme includes the dimension of *tolerance*. This dimension addresses respondents perceptions of what homeless students are like, as well as their understandings of the characteristics of homeless students. This theme also incorporates the dimension for respondents’ academic/classroom, behavior, and long-term educational *expectations* given the important interrelationship among expectations with attitudes and their joint impact on student outcomes. Lastly this theme includes respondents’ perceptions toward *educational and social support services* for homeless students.
Education Topics is the third theme and includes the dimension education issues. This dimension addresses topics such as barriers that homeless students face in education, exceptions to enrollment policies, separate classrooms, and knowing how to help homeless students.

The final theme that reflects relevant concepts in the literature is Environments. Like the previous category, this category also includes two dimensions—living situations and education environments. Living situations includes how respondents perceive the type of living situation a homeless student experiences and its impact on the student’s education. The education environments dimension reflects a debate over the types of education settings appropriate for homeless students (i.e., separate or inclusive).

In addition to the themes and dimensions relevant to the attitudes scale, this study also concerns the development of a related knowledge scale. Knowledge refers to teachers’ knowledge of the McKinney-Vento legislation and rights of homeless students.

Research Questions

Given that the purpose of this dissertation was to create an efficient, reliable instrument that supported valid inferences regarding teachers’ attitudes toward homeless students, the main research question in this study concerned the development of an attitudes scale. The main research question was stated as:

*Can a set of underlying dimensions be identified and used to effectively measure teacher attitudes toward homeless students?*

This research question addressed whether an underlying set of dimensions could be used to effectively measure the construct of teachers’ attitudes toward homeless students using an overall
scale, as well as subscales that included the nine attitude dimensions mentioned above. Chapter Three discusses this research question in more detail.

Although this study focused on the creation of a measurement instrument, it was possible and worthwhile to examine the relationships obtained among the teachers’ contextual variables with their attitude outcomes. This information has great value in understanding how teachers from different backgrounds and teaching experiences perceive homeless students. Therefore this a secondary research question in this study was:

What are the relationships among teachers’ contextual variables and their attitudes toward homeless students?

The collection of contextual information from teachers, including their number of years teaching and if they have ever taught a homeless student, along with demographic information, allows for analyses of the relationships among these variables with their observed attitudes from the TAHS scale. As discussed in the Implications section, this information has many benefits.

Part of the TAHS instrument includes the measurement of teachers’ knowledge of McKinney-Vento legislation and the rights of homeless students. Therefore it is possible to examine the relationship among teachers’ knowledge and their attitude. Therefore an additional research question in this study was:

What is the relationship between teachers’ knowledge levels and their attitudes toward homeless students?

Past research (Torres, 2004) has documented that both teachers’ knowledge of McKinney-Vento legislation and attitudes toward homeless students play an important role in the creation of a conducive learning environment for this student group. Additionally, teacher levels of training were found to be related to teachers’ expectations of homeless student academic performance.
(Sakaris, 1999). Therefore, it was worthwhile to investigate the degree to which teachers were aware and understand this law and how this related to their attitude toward homeless students.

Overview of Methods Used in Study

Addressing the aim of this study and the above research questions required the development of a strong measurement instrument. The development of the TAHS scale included sound measurement principles in all scale construction aspects, which helped establish its reliability, utility, and allowed for valid inferences to be made regarding teachers’ attitudes. The methods employed throughout this study are divided into three phases: Phase 1—item development and pilot testing; Phase 2—data collection; and Phase 3—validation.

Specifically, experts in the areas of homelessness, prejudice, education, and measurement theory guided the item development. Data collection included a geographically-diverse sample of professional teachers. A total of 6,000 teachers were contacted for participation in this study via email; 1,000 for the pilot study (Phase 1); 4,000 for the formal data collection (Phase 2), and 1,000 for the validation studies (Phase 3). The validation studies were conducted to validate the inferences made from the TAHS scale results and involved the use of other, related scales assessing the topics of attitudes toward the homeless and social justice. These processes established the TAHS scale as an empirically-validated and appropriate measure of teacher attitudes toward homeless students, which has the potential for great significance and utility in the measurement community and teaching field.

Statistical Analyses

In order to address the primary research question that concerns this study a variety of statistical procedures, including both Classical Test Theory and Item Response Theory methods,
were conducted. These methods were used for all three phases of the data collection. Specifically, factor and Rasch (1961) analyses were conducted to analyze the dimensionality of the overall attitudes scale, its subscales, the knowledge scale, and to investigate item properties. Additionally, Cronbach’s alpha was used to measure the internal consistency of the scales and subscales; item difficulty and item discrimination information was used to assess item functioning; and differential item functioning (DIF) procedures were used to help ensure the items were free from gender, ethnic, or racial biases.

Specifically, factor analyses were conducted to examine the data collected from the teachers in this study to establish a theoretically sound, multi-dimensional scale. As a data reduction method, factor analysis is useful to detect the structure and underlying relationships among variables. Factor analysis can be used to remove redundant variables, often replacing the entire data file with a smaller number of uncorrelated variables (Kim & Mueller, 1978). This method is appropriate and useful to obtain an efficient scale with few factors.

In conjunction with factor analyses, the dimensionality of the attitudes scale was analyzed using a Rasch rating scale model. Rasch measurement, which is one theory of IRT measurement, emphasizes the principles of unidimensionality, a hierarchical ordering of items, and a continuum of the construct definition to guide the scale construction process. These principles of the Rasch model provide a basic framework of measurement against which empirical data can be compared. The Rasch model proposes that useful measurement involves the examination of only one attribute at a time (unidimensionality) on a hierarchical line of inquiry. Rasch models, in contrast to other IRT models, are used as a confirmatory test of the extent to which scales have been successfully developed according to explicit \textit{a priori} measurement criteria.
These principles were applicable to this research as it was theorized that multiple underlying dimensions represent teachers’ attitudes toward homeless students. The items measuring teachers’ attitudes were theorized to represent the multidimensional construct of teachers’ attitudes toward homeless students. However, within each of the dimensions it was theorized that a unidimensional subscale existed (e.g., the affiliation dimension of the attitude scale is theorized to be unidimensional). The knowledge scale was theorized to represent a unidimensional scale.

This study’s secondary research regarding the relationships among the contextual variables and teachers’ attitudes, as well as between teachers’ knowledge levels and their attitudes, were examined using correlational indices and/or regression analyses. These and the above methods are described in further detail in Chapter Three.

Limitations

A number of limitations are discussed in the final chapter of this dissertation. In brief, primary limitations relate to this study’s sample, response rates, and representativeness. The foremost limitation of this study is the low response rates across the three phases. This resulted in over representation of some regions of the United States, as well as limited racial diversity. However, this study was successful in recruiting a diverse sample of teachers with varying experiences in their years of teaching, grade level taught, religion, and experience with homeless students, therefore the scales developed in this study can be viewed as reflective of a diverse sample of teachers and thus appropriate for use with teachers in various settings and of various backgrounds.
An additional, related limitation is that the sample may have overly represented teachers with positive attitudes. The majority of the attitude scale items were easy to endorse positively, which impacted the scale development process. Alternatively, this result may have been that the task of creating difficult items that discriminated at the high end of the scale, (where many respondents were located and which indicates positive attitudes), was somewhat unsuccessful. It was difficult to find or create many items that could achieve this discrimination. However, this issue was addressed by including some items where the highest response category was not selected by many respondents. These items were successful at providing discrimination among teachers with very positive attitudes.

Another limitation is that respondents may not have expressed their true attitude for fear of stigma, especially if they held negative attitudes. This could have impacted the scale development process in this study, as well as impact future use of the scale, especially if teachers withhold their true attitude for fear of repercussion from an authority figure. Although this limitation could never fully be remedied, the assessment development process addressed this limitation in multiple ways, both within this study and for its future use, which included incorporating a social desirability scale as well as administering the assessment as a non-verbal, self-report assessment.

An additional limitation of this study is that some respondents (20%) reported no experience teaching a homeless student. It is possible that including teachers in the sample who have not taught homeless students, (knowingly or not), could have impacted the construct validity of the scale. However, these teachers were important to include in the study because they may in fact have strong attitudes toward homeless students that may be unfounded. Therefore, including these teachers likely enhanced, rather than limited, the construct validity of this study.
The last limitation pertains to the complexity of the homeless student population, as many of the identified homeless students in schools are in elementary school and are living in shelters. This complexity in the homeless student population may have impacted the development of the TAHS scale, and thus its utility, given that teachers’ attitudes in this study may reflect a limited population of homeless students, namely elementary school students who live in shelters.

Implications
The creation of the TAHS scale, including the identification of the dimensions comprising the attitudes scale, has many benefits that have contributed to an area of importance where current quantitative measures are lacking. Despite the limitations discussed above, overall the TAHS scale allows for reliable and accurate measurement of teacher attitudes toward homeless students from which valid inferences can be made. These beneficial characteristics make this research distinct from current measurement instruments assessing teachers’ attitudes toward homeless students. Moreover, the identification of these eight dimensions has implications for understanding the complex nature of attitudes in other areas including various professional fields.

In addition, the results from the assessment provide comprehensive, theoretically-based, and sound results in this realm. Furthermore, the score interpretations, using the descriptors provided, have great utility for an individual or group of teachers. The TAHS assessment provides teachers with attitude and knowledge scores and accompanying descriptors that can be used in an interpretation process that entails self-reflection. This has the potential for a direct impact in creating equal educational opportunities for homeless students as teachers become aware of their attitude and make positive changes.
The provision of attitude and knowledge scores also has implications for decisions regarding teacher training around the issues of homelessness. The scores may indicate the need for targeted professional development in this area. In turn, the TAHS assessment may also be administered on multiple occasions to measure change in attitudes and knowledge in response to specific training initiatives. Similarly, the assessment results from this could be used to measure change in teachers’ attitudes at a broader level, such as measuring trends over time. Furthermore, the relationship of teachers’ contextual and demographic items with their attitudes and knowledge levels has certain implications for individual teachers in the future, including impacting their instructional assignments within a school. Overall, the implications of this study manifest in how the assessment results may be used in the future.

Summary
This introductory chapter provides an overview of the study, specifically explicating the problem this research attempts to address, the study’s purpose, the research questions, implications and limitations. The chapter also provides an introduction to the relevant literature applicable to the study and the methods employed in the study.

As this chapter has introduced, homeless students face a multitude of obstacles within society, not the least of which are access to and success in school (National Center on Family Homelessness, 2009; National Coalition for the Homeless, 2009; Stronge, 2000). However, teachers who hold negative attitudes toward students because they are homeless may be one of the strongest impediments to homeless students’ success in school and feeling valued by their teachers (Swick, 2000). Oftentimes, teachers have little insight into the authentic situations of children who are homeless (Powers-Costello & Swick, 2008). As a result of teachers’ misguided
attitudes and low expectations of homeless children, their academic progress may be negatively affected (Sakaris, 1999).

In an effort to address teachers’ insensitivity and negative attitudes toward homeless students the purpose of this dissertation was to create an efficient and reliable assessment that provides the basis for valid inferences regarding teachers’ attitudes toward homeless students. This instrument—the Teachers’ Attitudes toward Homeless Students (TAHS) assessment—not only addresses an established shortcoming in measurement, but also provides practical value through the utilization of the results.
CHAPTER TWO: REVIEW OF THE LITERATURE

The purpose of this chapter is to provide a review of the major research and theory that furnishes the immediate background for this study. This chapter begins with a schematic of the conceptual framework, which displays the pertinent topics addressed throughout this review. After presenting the background concepts the chapter details past, related approaches to the measurement of attitudes toward the homeless. The chapter concludes with the rationale for the study and a chapter summary.

Background Concepts

The following is a schematic of the conceptual framework for the proposed study. This framework documents the most relevant concepts involved in the complex construct of homelessness and specifically, teacher attitudes toward homeless students.

Figure 2.1. Conceptual Framework Schematic
The major background concepts relevant to this study, and depicted in Figure 1, include homelessness, attitudes, and education. The more pertinent concepts directly related to this study include attitudes toward the homeless, attitudes in education, and education and homeless students. The specific focal point of this study is the center of the Venn diagram—teacher attitudes toward homeless students. This section expands upon these topics (some of which were introduced in the first chapter), discussing each concept in detail, and concludes with a discussion of the measurement of teacher attitudes toward homeless students. The central theme of social justice, underlying these concepts in the diagram, is noteworthy as it literally provides the conceptual foundation for this work as discussed in the next sub-section.

Social Justice

A social justice framework is an important component of this research as it relates to the promotion of equal educational opportunities in the classroom for disadvantaged students. Not only can a social justice framework provide a starting point for strengthening teachers’ orientation toward marginalized children (Zeichner, 1993), it can also help educators develop a more sensitive understanding of the contexts and situations of homeless children and families (Powers-Costello & Swick, 2008). The social justice framework relevant to this research is one that includes teaching for social justice.

The broad theory of justice in teacher education includes the phrases “teaching for social justice” and “teacher education for social justice”, which Cochran-Smith (2010) refers to as

… not merely activities, but a coherent and intellectual approach to the preparation of teachers that acknowledges the social and political contexts in which teaching, learning, schooling and ideas about justice have been located historically and the tensions among competing goals (p.447).
This definition of teacher education for social justice moves beyond methods while emphasizing that teaching and teacher education are fundamentally political activities, taking place in already politicized contexts. As Cochran-Smith describes in earlier work (1999), part of teaching for social justice is taking on the role of educator and activist based on political consciousness and on ideological commitment to diminishing the inequities of American life. Further delineating this notion, Cochran-Smith (2010) explains that two relevant, key ideas underlying the theory of justice for teacher education include equity of learning opportunity (promoting students’ learning opportunities and enhancing students’ life chances, including challenging classroom and societal practices, policies, labels and assumptions that reinforce inequities); and respect for social groups (recognizing and respecting all social/racial/cultural groups by actively working against factors that reinforce inequities, disrespect and oppression of marginalized groups).

These notions of teaching for social justice have direct bearing on this study. They provide an underlying framework for conceptualizing the perspective taken by this investigator that all teachers, especially those who teach homeless students, have a responsibility to not only promote their students’ learning opportunities, but also to actively work against factors that reinforce inequities for homeless students. Such an ideology is particularly relevant given that teachers who reflect on their ideas about children and families who are homeless tend to see them in a deficit manner unless their perceptions are purposefully reconstructed (Nunez, 1996).

Homelessness

From the perspective of many in the public realm, the word homeless conjures thoughts of stereotypical single men soliciting spare change and “bag ladies” living on the streets. These people represent the visible homeless. However, there are the lesser known faces of homelessness, including fathers, mothers, and children. They are the invisible homeless, for they
are outside of mainstream society’s purview—they live in family shelters, domestic violence shelters, hotels/motels, or doubled-up with friends or relatives, and on occasion some are forced to live in cars, parks, and campgrounds (Wong, et al., 2009). The reality that children and youth are among the homeless—representing 61 percent of the sheltered homeless family population and 20 percent of the total sheltered homeless population (U.S. HUD, 2010)—debunks the public generalizations of the homeless, namely that homeless people choose to be homeless. A complex set of circumstances far beyond their control and understanding have rendered these children and youth without a home (Wong et al., 2009).

Although there are many circumstances associated with homelessness, the primary cause of homelessness for individuals and families is a lack of affordable housing (NCHE, n.d; National Coalition for the Homeless, 2009b). Shortages of affordable housing are prominent (Pelletiere, 2006), while housing-costs outpace wages (National Low-Income Housing Coalition, 2008). Meanwhile federal support for low-income housing has fallen 49 percent from 1980-2003 (NLIHC, 2005). Such shortages have led to high rent burdens, overcrowding, and substandard housing. Collectively these phenomena have forced many to become homeless (NCH, 2009b). When a lack of affordable housing is combined with other factors (i.e., low wages, unemployment, foreclosures, poverty, domestic violence, illness, mental health issues, and addiction) the risk of experiencing homelessness increases dramatically (NCH, 2009b).

For unaccompanied youth (e.g., youth not in the physical custody of a parent or guardian), the primary causes of homelessness are somewhat different from those for families. Physical or sexual abuse by a parent or guardian, neglect, parental substance abuse, and family conflict are reported as the primary reasons for youth becoming homeless (NCFH, 2008). For both families and unaccompanied youth alike, a complex set of circumstances has led to their
status as homeless, yet this can take on different meanings. Therefore it is important to define what the terms “homeless” and “homelessness” refer to.

The state of not having a home may be the simplest definition of homelessness, while in the broadest sense the term homeless refers to individuals lacking fixed, regular, and adequate shelter. However, there are contrasting definitions of what it means to be homeless: whereas the federal definition from the U.S. Department of Housing and Urban Development (HUD) does not include individuals who are “doubled up”, meaning they share housing with other persons due to financial hardship, the U.S. Department of Education recognizes this circumstance as homeless. ¹ Specifically, the McKinney-Vento Act (Sec. 725), the only federal policy guaranteeing the educational rights of homeless children, defines the term “homeless children and youth” as:

(A) individuals who lack a fixed, regular, and adequate nighttime residence …; and

(B) includes—

(i) children and youths who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative accommodations; are living in emergency or transitional shelters; are abandoned in hospitals; or are awaiting foster care placement;

(ii) children and youths who have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings …

(iii) children and youths who are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings; and

(iv) migratory children who qualify as homeless for the purposes of this subtitle because the children are living in circumstances described in clauses (i) through (iii).

¹ For the full Federal definition see Appendix A
Using this definition, there is an estimated 1.6 million children and youth living in families that did not have a home (NCFH, 2011). Recent federal data counts provide that 794,617 homeless children and youth were enrolled in public schools during the 2007-2008 school year (NCH, 2009a). These figures both represent underestimates of the extent of child homelessness due to the difficulty in tracking and recording the numbers of homeless children and youth, especially those who are not yet enrolled in school. For those enrolled in school, the counts are also an underestimate, as not all school districts report data to the U.S. Department of Education. These figures may also be underestimates of the current number of homeless children and youth, which has recently risen due to increased rates of foreclosure, and the high costs for food, health care, transportation, and home heating. Recent data indicate that the number of homeless families with children has climbed in recent months and continues to mount (Center for Budget and Policy Priorities, 2008; Curran, 2010; Lovell & Duffield, 2010).

Because much is unknown about the extent of child homelessness, collecting and disseminating information on the characteristics of children who are homeless is challenging. As mentioned in the previous chapter almost all of the investigations of homeless children sample children in shelters in the midst of an episode of homelessness. Likewise, the most recent demographic information comes from one of the most comprehensive studies of the homeless population using a sheltered sample. Burt and colleagues (1999) collected information on clients (i.e., homeless or formerly homeless persons) of a nationally representative sample of homeless assistance programs. Their findings represent homeless assistance programs nationwide and users of these programs in 1996, yet the trends they found are still consistent today and evidenced in other, less comprehensive studies (e.g. the U.S. HUD Annual Homeless Assessment Report to Congress). Some of the only representative demographic data to date on
homeless children come from this study. Burt and colleagues found that there is a disproportionate percentage of Black (non-Hispanic) homeless children (47%) compared to the US population (15%). Combined, Black and White children represent 85 percent of the overall homeless population, while rates of homelessness among Hispanic, Native American, and other races and ethnicities are similar.

In a similar vein, the most recent report to Congress by the Department of Housing and Urban Development found that less than one-quarter of persons in homeless families are non-Hispanic and white (24%), and nearly half are African American (48%). Conversely, almost half of all homeless individuals are white and non-Hispanic (45%). This suggests that people of different racial and ethnic groups may experience homelessness differently—non-minorities more often as single adults and minorities more often with accompanying children (U.S. HUD, 2010).

Burt and her colleagues (1999) also found that many homeless families are separated: among homeless women 60 percent have children under the age 18, but of these women only 65 percent live with at least one of their children; among homeless men, 41 percent have children under age 18, but only seven percent live with at least one of their own children. For children in homeless families, most live with their mothers, as 80 percent of families experiencing homelessness are female-headed (HUD, 2010), and many family shelters do not accept men into their programs, causing families to separate when they become homeless (NCFH, 2008).

In addition to experiencing family separations, homeless children also experience high mobility and instability. Homeless episodes are typically part of longer periods of residential instability characterized by frequent moves, short periods of permanent housing, and doubling up with friends or relatives (Rog & Buckner, 2007). Numerous studies document the association
between inadequate or insecure housing with negative outcomes across multiple domains of child well-being (see, for example, Cunningham, Harwood & Hall, 2010; Wolff, 2000; Sell, Zlotnik, Noonan & Rubin, 2010). As Wolff (2000) describes, multiple movements among temporary emergency shelters, which are often at great distances from one another and from the family’s origin, disrupt parents’ and children’s supportive social networks, exacerbate parental and family stress, worsen families’ access to schools and educational services, and cause repeated breaks in academic continuity.

Domestic violence also causes some families to move frequently and is often cited as a leading cause of homelessness among families (U.S. Conference of Mayors, 2010). For many homeless families conflict, trauma, and violence are prominent in their lives. The majority (83%) of homeless children have been exposed to at least one serious violent act by the age of twelve and almost 25 percent have witnessed acts of violence within their families (Buckner, et al., 2004). Children who witness violence, including homeless children, are more likely than those who have not witnessed such events to exhibit frequent aggressive and antisocial behavior, increased fearfulness, higher levels of depression and anxiety, and have a greater acceptance of violence as a means of resolving conflict (Osofsky, 1997).

Homeless children also experience poor mental and physical health. Acute and chronic health problems affect homeless children at high rates and can persist even after they obtain permanent housing (NCFH, 2009). Poor health for homeless children begins at birth: they have lower birth weights and more often need specialty care immediately after birth as compared with their housed counterparts (Weinreb, Goldberg, Bassuk, & Perloff, 1998). Homeless children also experience greater numbers of health problems than other children, including four times as many respiratory infections, twice as many ear infections, five times more gastrointestinal problems,
and are four times more likely to have asthma (NCFH, 1999). Homeless children also suffer from a lack of access to nutritional meals and are twice as likely as other children to experience hunger, while more than one-third have been forced to skip meals, and two-thirds worry they will not have enough to eat (NCFH, 2009).

Children who are homeless are vulnerable to mental health problems. By age eight, one out of three homeless children will have a diagnosable mental disorder that interferes with daily activities, compared to nearly one out of five other school-age children. Anxiety and depression afflict almost half of children experiencing homelessness, while one-third use aggressive and delinquent behavior to express their distress (Buckner & Bassuk, 1997). Furthermore, one study of the psychosocial and health status of over 450 formerly homeless children found that homeless children faced significant psychosocial risks and manifested behavioral, emotional, and school challenges (Gewirtz, Hart-Segos, & Medhanie, 2008).

The impact of poor health on children is profound: poor health can lead to more absences in school, fewer opportunities for exercise and recreation, and costly emergency care for untreated illnesses (NCFH, 2009). Proper health is necessary for children to grow, learn, and develop. The impact of untreated mental health disorders is devastating and may have serious life consequences, including substance abuse, violence, and suicide, as well as serious education consequences, including school failure and dropping out (National Mental Health Information Center, 2003). However, such outcomes are not inevitable for every homeless child.

Despite these challenging circumstances and traumatic experiences, recent research indicates that homeless children are quite resilient. In a recent study using cluster analysis Huntington and colleagues found that almost half of preschool and school-age homeless children who had adequate support services were doing well in the areas of emotional and behavioral
health, adaptive functioning, and academic achievement/intelligence despite the stresses they faced, while the remaining homeless children were doing poorly (Huntington, Buckner, & Bassuk, 2008). This finding reinforces the relatively new notion that homeless children are a heterogeneous group, as opposed to a homogenous group with similar needs and characteristics. Given that prior studies have generally viewed homeless children as a homogenous group, this finding offers a nuanced approach to understanding the different characteristics and service needs of homeless children. Moreover, this empirical distinction among subgroups of homeless children is particularly relevant in documenting and understanding teachers’ perceptions of homeless children and their recognition of this distinction.

*Education*

It is without question that education has been and continues to be one of the most important attributes in our society, as it is the central mechanism through which knowledge and information is received and spread throughout the world. From the time of the Founding Fathers through today, education has been valued by political leaders, religious figures, and by the public. While some see the role of education to promote human capital, others view it as a means to promote social justice. From either perspective, throughout the development of the United States education has shaped the economic, industrial, intellectual, and moral progress of our country. Education has also played an important role in bringing about social change. As Horace Mann, one of the most well-known education crusaders, once said,
Education then, beyond all other devices of human origin, is a great equalizer of the conditions of men—the balance wheel of the social machinery. I do not here mean that it so elevates the moral nature as to make men disdain and abhor the oppression of their fellow men. This idea pertains to another of its attributes. But I mean that it gives each man the independence and the means by which he can resist the selfishness of other men. (Mann, 1848)

In Mann’s view of education as the “great equalizer”, he believed that poverty would most assuredly disappear as a broadened popular intelligence tapped new treasures of natural and material wealth, and that through education crime would decline sharply (Cremin, 1957, p. 8). Mann also proclaimed that Providence had decreed that education was the absolute right of every human (Cremin, 1957). It is this long-lasting ideology that continues to promote education as central to a more egalitarian and democratic society; it provides promise to children of all classes and backgrounds that education is their key to success.

Today in the United States this ideology endures and manifests in the expectation that all citizens will have access to high quality education that will reduce the likelihood of inequality. Yet large differences in educational quality and attainment persist across income, race, and region because children from educationally and economically disadvantaged populations are less prepared to start school (Levin, Belfiend, Muennig, & Rouse, 2007). Educational inequality has implications for social justice, such that inequalities must be redressed in order to equalize opportunities in a democratic society. As Levin and his colleagues assert, the provision of an excellent education for all children has benefits, not only to the children themselves, but also for the larger society. Their research supports that poor education has large public and social costs in the form of lower income and economic growth, reduced tax revenues, and higher costs of public services. In their view, efforts to improve educational outcomes for at-risk populations are a public investment that yields benefits in excess of investment costs.
The importance of education is continually emphasized in Presidential speeches, in the news, and at the dinner table. It is also emphasized in research studies: in a study on the impact of parental education on children’s achievement outcomes it was found that higher levels of parents’ education, among other factors, were associated with higher average eighth grade mathematics and science achievement, (IEA, 2007). In another study on the public lifetime benefits of education, specifically a high school diploma, Levin and colleagues (2007) found that these benefits include lower government spending on health, crime and welfare. As these authors acknowledge, an individual’s educational attainment is one of the most important determinants of their life chances in terms of employment, income, health status, housing, and many other amenities.

**Education & Homeless Students**

For homeless children, inequality in education is complex, yet evident in their access to and success in school. This section discusses in detail the barriers that have created inequalities in education for homeless students and the federal policy response aimed at alleviating these barriers. It also includes an overview of the complex nature of education for homeless students, including the movement toward separate “homeless schools”, as well as the developmental and academic effects of a child’s homeless experience on educational outcomes.

The stressful and traumatic experiences that homeless children face have profound effects on their development, ability to learn, and academic achievement (Cunningham, et al., 2010; NCFH, 2009; Wolff, 2000). Education systems, such as schools and preprimary care settings, can offer stability to homeless children who lack stability in many other areas. Yet homeless children access such education services less frequently than their homed counterparts, especially
education services for preschool-aged homeless children (NCFH, 2009). Over the last few decades homeless children have experienced unequal access to and use of educational opportunities—in 1987 a mere 57 percent of homeless children were enrolled in school (NCH, 2009). This shocking reality sparked the creation of the first federal policy addressing the education of children and youth experiencing homelessness in U.S. public schools— the Stewart B. McKinney Homeless Assistance Act. As a result of this policy the number of homeless children enrolled in school climbed to 85 percent in 1995 (Anderson, Janger, & Panton, 1995), and by 2004 this number increased to 87 percent (U.S. Department of Education, 2006).

Under the McKinney Act, (later named the McKinney-Vento Act, and now reauthorized as part of NCLB), homeless children’s access to education significantly improved. However, many obstacles to the enrollment, attendance, and achievement of homeless children in school persist (NCH, 2009, U.S. D.O.E., 2002), and enrollment of homeless children less than five years of age in preschool is especially challenging. Children experiencing homelessness below the age of five are significantly underrepresented in pre-school programs with less than 16 percent of eligible homeless children enrolled (U.S. D.O.E., 2004; 2006). In comparison, the percentage of children from poor families enrolled in center-based preprimary programs is substantially higher (47%) and those from non-poor families is higher still (60%) (National Center for Education Statistics, 2007).

The rising costs of housing and household necessities are just one of the many factors that have led to increasing rates of child homelessness. As these market forces drive more families out of permanent housing and into shelters and temporary residences, many families must move into the first available housing option, which are often in different cities and towns. For parents trying to enroll their children into a new school, or keep them enrolled in their
previous school, they can face many barriers. Once children are enrolled in school there are many additional forces that act as barriers to homeless students’ attendance and achievement in school (NCFH, 2009; NCH, 2009; Stronge, 2000). Newman (1999) categorized all of these forces into a useful typology: legal and bureaucratic barriers to enrollment; practical barriers to attendance and achievement; and school- and family-mediated barriers to enrollment, attendance, and achievement. Each of these categories will be discussed in turn, but before doing so it is important to acknowledge that the barriers reported here are derived from sources other than the ones most affected by the barriers—homeless children. The available information pertaining to educational barriers for homeless children is reported primarily by Local Education Agencies (i.e., school districts), as well as by other researchers; the information does not reflect the input of homeless children, their families, or their teachers, which may or may not differ from the available information.

**Legal and bureaucratic barriers to enrollment.**

Instances of legal and regulatory barriers to the enrollment of homeless children have been widely reported. During the 1980’s, when family homelessness became recognized as a growing problem, initial reports on the problems homeless students experience primarily focused on legal and regulatory barriers to their enrollment (Eddowes & Hranitz, 1989; Harrington-Leuker, 1989; Jackson, 1987a, 1987b, 1987c). These reports cited a variety of legal and regulatory reasons for turning away homeless students, including problems with residency, guardianship, and immunizations. Since this time these types of barriers continue to pose hardship to homeless students’ enrollment: In the 2007-08 school year some of the most widely cited barriers by Local Education Agencies (LEAs) included eligibility for homeless services, school records, immunizations, and other medical records (NCHE, 2009). Oftentimes homeless children do not
have the required documents in their possession, and in some cases, the lack of documents, such as previous school records, medical or immunization records, proof of residency, birth certificate, proof of guardianship, or other documents can delay a child’s enrollment for weeks (NCHE, NAECY, & NLCHP, 2008a).

One recent, comprehensive report to Congress on states’ progress in eliminating legal and bureaucratic barriers to enrollment for homeless students found that guardianship and immunization requirements were still significant barriers (U.S. D.O.E., 2002), as did the most recent data collection from LEAs in 2007-08 (NCHE, 2009). As explained in the 2002 report to Congress, these requirements were viewed as important for health and safety purposes, but were often at variance with efforts to ensure that homeless children had access to school (p. 12). However, recent efforts made by some states include revising their laws, regulations, and policies to remove obstacles to the education of homeless children and youth. For example, states have made the most progress since 1994 in eliminating immunization requirements as barriers to enrollment by either creating systems to immunize homeless students, creating new laws or regulations, or changing, enforcing, or relaxing existing laws (p. 19). Where guardianship policies are concerned, twelve states either created laws, made efforts to enforce existing laws, or relaxed enforcement of laws, despite schools’ wariness of eliminating guardianship requirements because of liability concerns and fears that non-homeless students might abuse policies to enroll in popular schools (p. 20).

*Practical barriers to attendance and achievement.*

Since the passage and reauthorizations of the McKinney-Vento Act legal barriers to homeless children’s enrollment are a decreasing problem, yet homeless children and their families face other practical problems relating to their education, including attendance and achievement. Once
homeless children are enrolled in school, many problems, such as inadequate clothing, a lack of
supplies, and a lack of adequate study space can make it difficult for homeless children to attend
and do well in school (Newman, 1999).

A variety of clothing-related problems, including inadequate clothing and a lack of
clothing for school, are reported to be problems relating to homeless students’ attendance in
school. Some homeless children lack appropriate clothing for the climate and season (e.g., winter
coats, rain gear), while some lack laundry facilities and supplies needed for maintaining their
attire (Newman, 1999). Others lack an adequate amount of appropriate clothing, which may
cause embarrassment if their clothing is different from their peers or if it clearly identifies them
as “different” (Newman, 1999). Children experiencing some or many of these problems may be
deterred from attending school.

A lack of resources, such as school supplies and appropriate places to study may also act
as a barrier to homeless students’ academic achievement. Students living in shelters and hotels
often live in single rooms, sometimes without a table to work on. As evidenced in one study,
students living in public rooms, which are often crowded and noisy, may have no place to keep
books or supplies safe (Stanford Center, 1991). Children living in cars, campgrounds or
doubled-up with friends or relatives face similar constraints (Newman, 1999). Together, and with
other barriers, poor clothing, hygiene and poor homework completion (due to lack of resources
and places to study), have been found to not only act as barriers to homeless students’ enrollment
and achievement, but also represent barriers to being valued by their teachers (Annoshian 2000).

Family-mediated barriers to enrollment, attendance, and achievement.

Family-mediated barriers to homeless children’s enrollment, attendance, and achievement
include mobility and preoccupation with other concerns. As discussed earlier in this chapter,
mobility among homeless families is commonplace and can have many detrimental effects on a child’s well-being. When homeless students move, due to shelter time limits, domestic violence disputes, or for any other number of reasons, they may have difficulty in maintaining personal documents to enroll in school. The family’s need to move can lead to the student facing some of the legal and bureaucratic barriers to enrollment previously discussed, including residency requirements and lack of records (Foscarinis & McCarthy, 2000). High mobility is also associated with negative effects on achievement and academic success (Cunningham, et al., 2010; Newman, 1999; Wolff, 2000). As Newman (1999) surmises, students who change schools frequently also face attendance and other educational problems, such as the loss of curricular continuity, grade or program misplacement, lost learning time, and have trouble carrying out academic commitments.

Although there is little recent empirical documentation, a homeless family’s preoccupation with other concerns can potentially hinder a child’s enrollment in school. Homeless families’ primary concerns are often to address priority needs, such as medical attention, shelter, food, or protection from domestic violence. Studies from the 1990’s showed that some parents did not consider it worthwhile to enroll their children in school because they could be moving soon (Bassuk & Gallagher, 1990; Van Ry, 1992). Although many homeless parents are too preoccupied securing basic needs for their family to effectively advocate for their children’s educational needs, parents of homeless students often recognize the importance of education for long-term success and typically are not lacking in concern and aspirations for their children (Yon & Sebastien-Kadie, 1994; Stronge & Hudson, 1999).
School-mediated barriers to enrollment, attendance, and achievement.

Many of the most widely cited barriers to the education of homeless students in the 2007-08 school year include school-mediated barriers, such as transportation, eligibility for homeless services, school selection, and school records (NCHE, 2009). These barriers reflect structural systems in schools that are problematic for homeless students, but which schools can affect.

Potentially inhibiting factors within school systems include problems with educational placement and academic support, and inadequate or inappropriate support services (Stronge, 1999). Homeless students often enroll in school outside of the official registration period. As a result, they may not be present during standard evaluation periods for services or programs, such as special education, before- and after-school care, school meals, and other programs (Foscarinis & McCarthy, 2000). Therefore, homeless students may not receive services for which they are eligible, such as special education, or may be inappropriately placed in services for unnecessary reasons. This outcome was found in one study where almost one-quarter of the homeless children eligible for special education services had never received special education testing or placement (Zima, Bussing, Forness & Benjamin, 1997). Additionally, homeless students may be unable to participate in extra-curricular activities because transportation and other schedules are not aligned (Newman, 1999).

Support services, such as transportation, are often inadequate or unavailable, as evidenced by its status as the number one barrier for the last four school years in which data is available (NCHE, 2009). A lack of transportation may prevent homeless children from attending their previous school; it may also prevent school attendance for children living at a temporary address outside existing school bus routes (Foscarinis & McCarthy, 2000). As reported from the 2007-08 school year data collection, LEAs state that they struggle to implement the McKinney-
Vento transportation provision, especially if the child needs to be transported across district or state lines (NCHE, 2009). Recently, school districts have reported a 25 percent increase from the 2005-06 to the 2007-08 school year in the provision of transportation as a support service (NCHE, 2009). However, this is undoubtedly affected by the rise in the number of homeless students requiring transportation and not necessarily reflective of better serving those already in need of transportation services.

An additional school-mediated barrier to the educational access and success of homeless students is the presence of separate schools for homeless students. Separate schools exclusively for homeless students, sometimes referred to as “transitional schools,” have been established in several states nationwide (Foscarinis & McCarthy, 2000). Often these separate schools represent the well-intentioned efforts of shelter providers to ensure that homeless students are given some form of schooling. However, some critics (e.g., Foscarinis & McCarthy, 2000) view separate schools as a serious barrier to the equitable education of homeless students as required by the McKinney-Vento Act. As expressed by critics, these schools present concerns to the educational access and the success of homeless students for several reasons, including isolation from their non-homeless peers; potential for inadequate education (e.g., many programs exist as one-room schoolhouses); disruption of coursework and adherence to state standards because such schools often do not follow the mainstream curriculum, causing further gaps in progress; inadequate or unsafe physical facilities not designed to be used as schools (e.g., converted shelter space); and a lack of the full range of compensatory programs or services, such as special or bilingual education (Foscarinis & McCarthy, 2000). As Lewin (2005) observed, other critics argue that providing alternative schools for homeless children alleviates the pressure on public schools to improve their outreach and support of homeless students.
In response to these concerns, proponents of separate schools argue that these schools help homeless students by ensuring access to school while in transitional periods and facing residential instability. They also argue that these schools shield homeless students from harassment or ridicule from insensitive classmates or teachers (Foscarinis & McCarthy, 2000). As mentioned in the next section, separate schools for homeless students are no longer permitted, except in cases where they are grandfathered into existing law; however, the separate school debate still persists.

In addition to problematic school structures, there are also school-mediated barriers that relate to issues in school culture, including prejudice2 and poor home-school relationships (Newman, 1999). The relationship that a student and his or her family have with the school can also play a major role in the student’s enrollment, attendance, and achievement in school. Oftentimes a family might feel alienated by school staff whose culture may be very different from their own. In turn, school staff may assume that parents do not care about their students and fail to reach out to these parents (González, 1992). However, as noted above, parents of homeless students often recognize the importance of education for long-term success and typically are not lacking in concern and aspirations for their children (Yon & Sebastien-Kadie, 1994; Stronge & Hudson, 1999). As Swick (1999) contends, it is through the knowledge and attitudes of teachers and staff that make the difference—where homeless children and their families are empowered to influence their lives and the lives of others. Teachers and school personnel that understand the complex circumstances of homeless families can strengthen children’s learning potential by recognizing and then relating to the immediate needs of children and their families—especially as they perceive them (Swick, 1999). From this viewpoint teachers

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2 The issue of prejudice is discussed the sub-section Teacher Attitudes toward Homeless Students.
and families are seen as co-collaborators in the process to help remove and remedy the many barriers described here that homeless children face in accessing and succeeding in school.

Another key element in the process of removing barriers to homeless students’ education is the McKinney-Vento Act, which requires states and LEAs to remove barriers that may deny or delay homeless children’s access to school or services. Although this law was enacted over two decades ago, and much progress has been made, as mentioned throughout this section many barriers to homeless students’ education remain. These include difficulty identifying homeless students, transportation, eligibility for homeless services, school selection, school records, immunizations, other barriers, and other medical records, among others (First Focus, 2010; NCHE, 2009). The next sub-section discusses this important Act, its funding process, and its limitations.

McKinney-Vento Act.

During the 1980’s the prevalence of homelessness and especially the number of un-enrolled school-age homeless children became a highlight of public concern. What was historically seen as a local and state concern, for the first time the federal government (although reluctantly), chose to address the shocking reality that in 1987 a mere 57 percent of homeless children were enrolled in school (NCH, 2009a). The federal policy response to these public concerns was the Education of Homeless Children and Youth (EHCY) program under the new McKinney Homeless Assistance Act. This program was created to address the education of children and youth experiencing homelessness in U.S. public schools. In addition to this program, the Act also consisted of fifteen programs providing a range of services to homeless people, including emergency shelter, transitional housing, job training, primary health care, education, and some permanent housing, and was seen as the first step to resolving homelessness (NCH, 2009a).
Today the McKinney Homeless Assistance Act is known as the McKinney-Vento Act and has greatly expanded its breadth of programs offered to assist the homeless.

The Education for Homeless Children and Youth Program (Subtitle VII-B) is the primary piece of federal legislation dealing with the education of children and youth experiencing homelessness in U.S. public schools. In short, the purpose of the program is to ensure that all homeless children and youth have equal access to the same free and appropriate education, including preschool education, provided to other children and youth. Specifically, this act guarantees homeless children and youth the following:

- The right to immediate enrollment in school, even if lacking paperwork normally required for enrollment.
- The right to attend school in his/her school of origin (if this is requested by the parent and is feasible) or in the school in the attendance area where the family or youth is currently residing.
- The right to receive transportation to his/her school of origin, if this is requested by the parent.
- The right to services comparable to those received by housed schoolmates, including transportation and supplemental educational services.
- The right to attend school along with children not experiencing homelessness; Segregation based on a student’s status as homeless is strictly prohibited.
- The posting of homeless students’ rights in all schools and other places around the community.

In addition, the McKinney-Vento Act says that children who have lost their housing can:

- Attend school, no matter where they live or how long they have lived there.
- The school must immediately let students enroll, attend classes, and participate fully in school activities, even if students do not have a parent or guardian with them or documents such as proof of residency, immunization records, other medical records, or school records.
- Access all the school services they need, including preschool.
- Go to school with children who are not in temporary housing and be free from harassment.

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3 This program of the McKinney-Vento Act was reauthorized as Title X, Part C, of the No Child Left Behind Act in January 2002
• Students are to be held to the same high academic achievement standards as their housed peers and should participate in state and local testing.
• Have disagreements with the school settled quickly and go to the school they choose while disagreements are settled.
• Contact the school district homeless education liaison, whose job is to help children in homeless situations enroll and succeed in school.

By enforcing and following these guidelines the intent is to minimize the educational disruption due to homelessness and to improve the provision of comprehensive services to homeless children and their families (PL100-77, 2002). One of the rights mentioned above is noteworthy—the right to attend school along with children not experiencing homelessness; segregation based on a student’s status as homeless is strictly prohibited. This requirement was enacted as part of the 2002 reauthorization of the McKinney-Vento Act, and therefore separate schools for homeless students were allowed to remain in existence, but new schools separating homeless students from their housed peers are not permitted. As discussed in the above section, separate schools exclusively for homeless students are controversial and often viewed as an additional barrier to the education of homeless students as opposed to a positive solution.

Past evaluations of the Education for Homeless Children and Youth Program (EHCYP) have shown steady success in implementing these requirements (Anderson, Janger, & Panton, 1995; U.S. D.O.E., 2004; 2006). Nevertheless, a common finding across studies on the barriers to the enrollment of homeless children in schools is a lack of funding and resources to implement the McKinney-Vento Act. Some (Wong, et al., 2009) argue that since its inception, appropriations for the Act have not kept up with inflation or demand for services and funding is insufficient. To understand why this may be, it is important to understand the McKinney-Vento funding process. The Act is a conditional funding act; that is, the federal government gives grants to states and therefore the grantee states are bound by the terms of the act. If a state
chooses not to accept federal funds for these purposes, it does not have to implement the act (U.S. D.O.E., 2004b), however in recent years all states have opted to receive funds.

Funding for the McKinney-Vento Act is provided through formula grants to state educational agencies. State and local educational agencies receive McKinney-Vento Act funds to review and revise laws, regulations, practices, or policies that may act as barriers to the enrollment, attendance, and success in school of homeless children and youth. LEA subgrants support a variety of activities, including identification and outreach; assistance with school enrollment and placement; transportation assistance; school supplies; coordination among local service providers; before and after school and summer educational programs; and referrals to support services. State educational agency (SEA) funding helps support services such as toll-free hotlines; awareness raising activities for educators and service providers; preparation of educational materials for statewide distribution; technical assistance to schools, service providers, parents, and students; and enrollment assistance (NCH, 2009a).

Although many McKinney-Vento programs have seen their funding deeply cut or entirely withdrawn over the last twenty years, the EHCY Program has received steady funding. In particular, funding dramatically increased from 2001 to 2005, which included a 59 percent increase in appropriations for LEA sub grants (U.S. D.O.E., 2006). For FY2006 and FY2007 the EHCY program was funded at $61.9 million, and at $64 million in FY2008 (National Association for the Education of Homeless Children and Youth, 2008). In April 2009, under the American Recovery and Reinvestment Act (ARRA), an additional $69.2 million was allocated to the McKinney-Vento Children and Youth grants. This was in addition to the $65.4 million already allocated under this program for FY2009 (U.S. D.O.E., 2009).
Despite the millions of dollars being spent each year on the EHCY Program, reports consistently show that the funding is not reaching all of the eligible homeless student population. Of the reporting LEAs, for the past three years McKinney-Vento subgrants have only been reaching approximately one-third to one-half of eligible homeless children (NCHE, 2009). Even with the extra funding made available under the ARRA in 2009, less than one in five school districts nationally received any support through either the ARRA homeless education funds or the annual McKinney-Vento funding (First Focus, 2010). As recently as the 2007-08 fiscal year, the percentage of school districts served by McKinney-Vento funds was as low as nine percent (NCHE, 2009). These numbers translate into a substantial percentage of school districts attempting to meet the requirements of the Act with no funding. In a recent national survey of school districts conducted by NAEHCY and First Focus, many school districts expressed concern about funding, especially the impact on services, when ARRA homeless education dollars run out. Respondents frequently reported that the loss of funding would result in loss of educational access, stability and success (First Focus, 2010).

Given that funding for the EHCY program cannot meet the demand to serve the increasing number of homeless children, and that some school districts receive no funding to address the requirements of the McKinney-Vento Act, many view it as an unfunded mandate; see, for example, Jackson, 2004.4 Even at its current funding level the financial support of the McKinney-Vento Act is not enough to suffice for all of the identified homeless students in schools. In addition, with the extensive under-identification of homeless students within school districts, it is clear that McKinney-Vento funds do not reach substantial portions of homeless students in a given state. It is likely that the educational system does not serve these homeless students in the best way possible.

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4 Additional sources citing the McKinney-Vento Act as an “unfunded mandate” are available using a simple internet search, where hundreds of sources make this claim (Google internet search, February 16, 2010).
children to any degree as many school-age homeless children do not attend school, especially unaccompanied youth (NCFH, 2009). For children who are already invisible to mainstream society due to their homeless status, these children are further hidden inside and outside of an education system not adequately designed to assist them. Yet as the next section describes, these children are in great need of assistance due to the many adverse impacts associated with homelessness on their education.

**Impact of Homelessness on Children’s Education**

Aside from the many health-related problems that homeless children face, there are many negative academic outcomes associated with homelessness. In a review of nine studies of homeless children living in shelters, Buckner (2005, 2008) examined attendance, achievement, and other academic outcomes for these children using a variety of measures. In all of the studies but one, homeless children were worse off than general population samples, and six of seven studies found them worse off than housed children. Similarly, in a longitudinal study Obradović and colleagues found markedly lower achievement trajectories and slower growth for homeless and highly mobile students compared to their more advantaged peers (Obradović et al., 2009).

There are factors associated with homeless children’s academic underperformance, such as frequent school changes. Although not causal, the frequency in which a homeless student changes living situations and schools is harmful to their educational experience. Within a single year, nearly all (97%) of homeless children have moved; 41 percent will attend two different schools, and 28 percent will attend three or more different schools (NCFH, 1999). Each change in school sets the student back academically by an average of four to six months. Not surprisingly, children experiencing homelessness are four times more likely to show delayed development and have twice the rate of learning disabilities as non-homeless children (NCFH,
Homeless students also perform poorly on states’ standardized assessments: In 2007-08 only 44 percent of homeless students in third to eighth grade met or exceeded state proficiency standards in reading and only 42 percent met this criteria in math (NCHE, 2009). Residential mobility also adversely affects other areas of academic performance, rates of grade retention, rates of high school graduation, (Scanlon & Devine, 2001) and is associated with increased rates of behavioral problems (Jellyman & Spencer, 2008).

Homelessness also impacts school readiness. Homeless children are three times as likely to be placed in special education classes, twice as likely to score lower on standardized tests, and eight times more likely to be asked to repeat a grade (NCFH, 1999). Research shows that retaining children in school is not only ineffective in boosting their achievement, but also dramatically increases the probability that they will leave school before high school graduation (Xia & Kirby, 2009). Correspondingly, it is estimated that less than one in four homeless children graduates from high school and for those that reach the end of high school few are proficient in reading and math (NCFH, 2009). In today’s society graduation from high school is an absolute minimum for a person to have a reasonable opportunity for earning a living wage or succeeding in college. Moreover, students who drop out of high school earn on average $200,000 less over their lifetime than high school graduates. As approximately 1,166,520 of today’s homeless children will not graduate from high school, these children stand to lose over $230 billion in lifetime earnings (NCFH, 2009).

Many agree that one of the first steps in redressing the adverse impacts of homelessness upon children can begin with the stability offered within the school system. To a homeless child educational opportunity is more than the opportunity to attend school — it is an opportunity to obtain stability in their transient and traumatic lives. School may be the only opportunity for
these children and youth to benefit from a stable environment, uninterrupted adult attention, peer relations, academic stimulation, and reliable meals (NCHE, NAECY, & NLCHP, 2008a). However, many of the positive effects of the school atmosphere may not materialize with the presence of insensitive staff, including those with negative attitudes toward homeless students.

**Attitudes**

As Thurstone (1959) describes in his seminal work on the measurement of attitudes, “the concept ‘attitude’… denote[s] the sum total of a man’s inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specified topic” (p. 216). In this study a teacher’s attitude about homeless students means all that she feels and thinks about students who are homeless.

Negative attitudes or more specifically, negative prejudiced attitudes, are a serious matter that demand attention in all contexts, but especially when they regard extremely disadvantaged children. Allport’s (1954) lasting definition of ethnic prejudice, which can be extended to other marginalized groups, refers to an “antipathy based upon a faulty and inflexible generalization. It may be felt or expressed. It may be directed toward a group as a whole, or toward an individual because he is a member of that group” (p.9). As Allport explains, “the net effect of prejudice, thus defined, is to place the object of prejudice at some disadvantage not merited by his own misconduct” (p. 9). It is this definition of negative ethnic prejudice that extends to homeless students in this study, although it is acknowledged that they are not an ethnic group per se, but rather a marginalized group that is subject to negative prejudice.

Other definitions of prejudice, including that from Oxford English Dictionary, recognize that people may be prejudiced in favor of others, where prejudice is “a feeling, favourable or unfavourable, towards a person, thing, or class” (OED, 1989). For this study it is important to
bear in mind that biases may be pro as well as con, where teachers may have favorable or compassionate attitudes toward homeless students or they may have unfavorable or negative attitudes toward them. This is an important notion for this study since the aim of this dissertation was to create a scale that measures teachers’ attitudes that are hypothesized to reflect attitudes ranging from negative to positive. However, given the argument that teachers’ negative attitudes may impede homeless students’ success in school and being valued by their teachers (Swick, 2000), negative prejudice is of primary importance in this study. Therefore, all subsequent references to prejudice in this document refer to negative prejudice, unless otherwise specified.

To delineate further the above notions of prejudice, there are multiple types of prejudice, including unconscious prejudice, which is the most common type. Persons acting out due to unconscious prejudice do not realize the impact of their unintentional actions, including those that can be hurtful (Davidson, 2003). Teachers who hold prejudices against homeless students are most likely afflicted by unconscious prejudice, or as Allport (1954) would assert, have a misconception or prejudgment, wherein a person has “organized wrong information”, meaning a person has made an incorrect inference or extrapolation. To distinguish between ordinary errors of prejudgment and prejudice, a person who is capable of rectifying his erroneous judgment in light of new evidence is not prejudiced (Allport, 1954). However, “prejudgments become prejudices only if they are not reversible when exposed to new knowledge” (p.9, italics in original). This concept is applicable to this study as teachers’ attitudes may reflect either prejudgments or prejudices.

**Attitudes toward the Homeless**

Historically, the homeless population, including individuals, families, and children, have been a marginalized group subject to prejudice, stigma, and discrimination. Portrayals of the homeless
in American culture have long depicted the homeless as lazy, drunk, mentally-ill and with other character flaws (Guzewicz & Takooshian, 1992) and have increasingly become the subject of extreme discrimination and hate crimes (NCH, 2009c). In the past, representations of the homeless have also failed to recognize that the homeless population is comprised of individual people, including young children, who are victims of unfortunate situations. The homeless are often classified into one group of needy, desperate people with little initiative and few aspirations (Guzewicz & Takooshian, 1992). Such stereotyping allows people to be treated as objects rather than as human beings and once this dehumanization process occurs, people’s feelings and needs are often ignored (Davidson, 2003).

Homeless children have also been subject to stereotyping, especially unaccompanied homeless youth. These children, who live independent of families, have been subject to a long history of prejudice. As Barak (1991) documents, the treatment of unaccompanied homeless youth was strongly influenced by the ideology of social Darwinism, particularly the eugenics movement. Throughout much of the 20\textsuperscript{th} century, homeless and runaway youth that were determined to be feeble-minded were often institutionalized and sterilized (Shifflett, 2000).

Unaccompanied youth were also stereotyped as vagrants and waifs throughout the early part of the twentieth century. However, at the turn of the twentieth century, and especially throughout the Progressive Era, kinder judgments of homeless children were introduced (Barak, 1991). With this movement came the distinction between the undeserving and deserving poor. The undeserving poor were viewed as flawed due to personal faults and characteristics and unworthy of public aid (e.g., runaway children who were viewed as vagrants and criminals). However, the deserving poor, such as children who lost their homes due to societal conditions, were considered worthy of public assistance since the causes of their poverty were viewed as
beyond their individual control (Shifflett, 2000). This paradigm shift allowed homeless people to be viewed as not only victims of individual circumstance, but also as victims of the inadequacy of institutional and structural arrangements. With this shift in perspective, homeless children were categorized as deserving poor, but runaway and unaccompanied youth were still viewed as undeserving vagrants and criminals and therefore failed to receive human services and interventions. Additionally, this attitude toward unaccompanied youth resulted in abuse and exploitation for cheap labor by agriculturalists and industrialists (Shifflett, 2000).

Research by the American Medical Association (1989) helped shift the paradigm yet again—they concluded that the health care needs of homeless children, both unaccompanied and accompanied children, are likely the same. However, both homeless children and unaccompanied youth still face stereotypes, discrimination, and inequalities, as discussed throughout this chapter.

**Attitudes in Education**

This section, and the one that follows, provide the foundation for this study’s theoretical framework. Teachers’ attitudes impact students in the classroom in countless ways. For many students, including those who are homeless, or have disabilities, or may be an English-language learner, teacher attitudes have been identified as a barrier to their successful inclusion in the classroom (Dluhy, 1990; Downing, Eichinger & Williams, 1997; Muscott, 1996). Teacher attitudes are bound to their expectations of students, as teacher expectations are influenced by their attitudes (Sakaris, 1999). Teachers expect students to behave in specific ways and attain certain goals, and thus treat students differently according to their individual behavior and attainment (Brophy, 1979; Good, 1981; Weinstein, 1998). This differentiating behavior can affect students’ self-concepts, achievement, motivation, and levels of aspiration (Good, 1981). Teacher attitudes and expectations can also affect how much students learn, where students who
receive high expectations will lead to achievement at high levels, whereas the achievement of those with low expectations will decline (Brophy, 1979; Good, 1981).

One such example where students reacted to teachers’ differential treatment in ways that confirmed the teachers’ expectations is the Pygmalion study. In an experiment conducted in 1968 by Rosenthal and Jacobson, teachers were told that certain students were designated as high-achievers based on an intelligence assessment; however, these students were chosen at random. On an intelligence assessment at the end of the school year the high-achievers actually outperformed their peers. Teachers’ subjective assessments, such as reading grades and behavior ratings, showed similar differences. Rosenthal and Jacobson (1968) concluded that the teachers’ expectations unconsciously led to the performance they expected. The teachers spent more time with these students, were more enthusiastic about teaching them, and unintentionally showed them more warmth. As a result these students felt more capable and intelligent and performed accordingly.

As the Pygmalion study documents, students who endure prejudice, positive or negative, can begin to act according to their teachers’ expectations. This study is an example of one type of teacher expectations: the self-fulfilling prophecy. This phenomenon refers to the countless subtle ways in which expectancy of certain behavior in others evokes that very behavior (Allport, 1954). While the Pygmalion study documents the effects of positive teacher attitudes on students’ achievement, both positive and negative attitudes and their effects are frequent in the literature. For marginalized students this is especially relevant as educators may have lower expectations for disadvantaged children, which could create a self-fulfilling prophecy (Knapp & Shields, 1990). The second major type of expectation that teachers hold is the sustaining expectation, where teachers expect students to continue to behave in a previously observed
pattern to a degree that they fail to observe when behavioral changes develop (Good & Brophy, 1987). Teachers' attitudes and expectations, which can lead to self-fulfilling prophecies and sustaining expectations, are frequently based upon information obtained prior to any observation of or interaction with students, such as a label (Rolison & Medway, 1985).

Many studies (Allday, Duhon, Blackburn-Ellis & Van Dycke, 2010; Field, Hoffman, St. Peter & Sawilowsky, 1992; Jacobs, 1978; Rolison & Medway, 1985; Sutherland & Algozzine, 1979) have documented that student labels affect teacher attitudes toward and expectations of students. This is referred to as labeling bias, which is the expectation that people may develop toward a person who has been given a particular label (Fox & Stinnett, 1996). Labeling children has resulted in differential expectations for the one being labeled (Brophy & Good, 1970; Cooper, Findley, & Good, 1982; Rosenthal & Jacobson, 1968), and differential treatment according to teachers’ expectations or preconceptions by giving more educational opportunities to certain groups (Gibel, 1996).

For students with special education needs, the impact of labeling and teachers' attitudes toward these students is compelling and relevant to students who are homeless, as they have three times the rate of special education designations than their non-homeless peers (NCFH, 1999). The use of labels in special education has been shown to hinder the success of students receiving special education services (Field et al., 1992). Oftentimes school personnel interpret the label negatively and presume that the student is incapable of being as successful as students without labels (Field et al., 1992; Rosenthal & Jacobson, 1968). Research has shown that school personnel expect a student with a label to perform more poorly on a variety of emotional and social tasks than “normal” students (Gillung & Rucker, 1977). As discussed in the next section, teacher attitudes toward homeless students can be equally as harmful.
Understanding past relationships and trends between teachers’ attitudes and homeless students is essential to this study. This section presents the findings of past studies that have investigated the impact of schooling, and specifically teachers’ impact on homeless students, while a more critical discussion of how the proposed study differs from these studies is provided in the Rationale for Proposed Dissertation section. In this section particular emphasis is devoted to empirical studies that have also attempted to measure teacher attitudes toward homeless students.

The experience that homeless children have in school can be both positive and negative (Walsh & Buckley, 1994). Schools can offer homeless children with much needed stability and security, yet it can also be a source of frustration as a result of academic and social difficulties and stigmatization (Rosenman & Stein, 1990; Walsh & Buckley, 1994). Homeless students’ sense of acceptance or rejection is interrelated with the understanding and treatment they receive from school staff (Stronge, 1995). A lack of sensitivity by school personnel, administrators, and teachers to the educational needs and life circumstances of homeless students can be stigmatizing for these children. Facing stigma, homeless students may feel isolated and discouraged from attending and succeeding in school (Foscarinis & McCarthy, 2000).

Stereotyping and labeling by teachers has historically been a common phenomenon (Whitman et al., 1990; Danzig, 1997). For homeless children this may occur when they enter a classroom environment where they are unwelcomed by a teacher who looks upon them as potential problems (Martin, 1991). In many cases teachers view homeless students negatively because homeless students are often isolated from school contexts and seen as outside of the school culture (Annoshian, 2000). Other teachers may treat homeless students differently from non-homeless students because they are not prepared for the academic and/or behavioral
difficulties a homeless student may bring into the classroom, and feel that these problems will interfere with the teaching process (Arrighi, 1997; Bassuck, 1990). In other cases, teachers may have poorer attitudes toward homeless students given their high rates of behavioral problems (Osofsky, 1997), since teachers tend to be the least tolerant of and have poorer attitudes toward students who exhibit overt behaviors that disrupt the classroom, or who are aggressive or socially defiant (Muscott, 1996). All of these factors contribute to the development of negative attitudes and lowered expectations toward homeless students, which transform the classroom into an unfriendly environment.

When teachers have negative attitudes toward homeless students this may pose one of the strongest impediments to homeless students’ success in school (Swick, 2000). Likewise, Dluhy (1990) contends that teacher attitudes and those conditions that affect attitudes are important barriers to the proper education of homeless students. Teachers’ misguided attitudes and low expectations of homeless children may negatively affect homeless students’ academic progress (Sakaris, 1999), and could create a self-fulfilling prophecy where standards are set at a level not high enough to form a foundation for academic success (Knapp & Shields, 1990).

Knowledge concerning teachers’ attitudes toward homeless students can aid in the development of interventions and programs for these students. In an attempt to broaden the literature on this topic, a number of empirical dissertations have investigated teachers’ attitudes toward homeless students (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004). Although their results have limited generalizability given the limitations of their samples, the findings have utility in aiding the direction of this research.

In a descriptive study on Hawaii’s public school teachers’ knowledge and attitudes toward homeless children, Coach (1998) found that all of the teachers in her sample believed that
poverty was one of the causes of homelessness, while some listed personal causes such as laziness, substance abuse, and domestic violence. Coach also found that teachers felt that they needed more training and knowledge about homeless children; although they were familiar with some of the problems homeless children face, they were not comfortable about what they could do to enhance the educational experience for these students. Additionally, the 40 teachers in this study, who were from the Hawaiian Island of Oahu and taught in grades 1-4, were not familiar with the McKinney-Vento Act.

In a study of 77 public school teachers from two Northeast counties, Sakaris (1999) found that teachers generally had positive attitudes toward homeless students. Teacher attitudes were positively related to a teacher’s sense of self-efficacy. Teachers’ expectations were also positively associated with self-efficacy, as well as with their preference for high order and organization within the classroom, and quality of contact with homeless persons. Certain teacher characteristics were found to be associated with expectations for homeless students. Specifically, teachers with more years of experience expected greater academic, behavioral, and overall competencies for homeless students than did their less experienced colleagues. However, grade taught did not relate to teachers’ attitudes and expectations.

In another study on teachers’ perceptions of homeless students, Torres (2004) observed that both teacher’s knowledge of McKinney-Vento legislation and their attitudes toward homeless students played an important role in creating a conducive learning environment for this student group. In this research of 115 public school teachers in Colorado, collected over two times points (1995 and 2003), Torres also found that some educators lacked knowledge of the McKinney-Vento legislation even though they suspected that they might have homeless students in their classes. Teachers in her study also failed to recognize indicators of homelessness,
including frequent moves (place-to-place and school-to-school), and families that were doubled or tripled up in residence. Torres also noted that younger teachers in her second sample were only somewhat more aware of homelessness than the teachers in her first sample, suggesting that limited progress had been made in educating teachers about the McKinney-Vento legislation.

In a more recent study on Texas public elementary school teachers’ knowledge and attitudes toward homeless students, Cartner (2007) found that teachers had intermediate to substantial knowledge levels of the McKinney-Vento Act. However, throughout this study some variability was observed in regard to the type of living situations that constitute as homeless. All of the teachers in this study had positive attitudes toward homeless students, as measured by the author’s attitudinal scale. Lastly, Cartner observed a non-significant relationship between teachers’ knowledge levels of the McKinney-Vento legislation and teachers’ attitudes toward homeless students.

Collectively these studies show that teachers in various public school settings have mostly positive attitudes toward homeless students and generally low knowledge levels of the McKinney-Vento legislation. As this section has emphasized, understanding teachers’ attitudes toward homeless students has important implications because, as Coach (1998) supports, homeless students have unique needs that can only be met by teachers with proper attitudes and knowledge levels. The next section discusses these and other major efforts to measure teachers’ attitudes toward and knowledge of the homeless or homeless students. However, before moving on the reader is reminded of a point previously mentioned in this chapter, but of importance here: there is a relatively new, empirically documented finding that homeless students do not represent a homogenous group, but rather have markedly diverse educational needs and experiences (Huntington, Buckner, & Bassuk, 2008; Obradović et al., 2009). This notion is important to
acknowledge in relation to this study as teachers may have attitudes about homeless students as a homogenous group, especially if they have little experience working with them, or they might recognize variability among the students. The literature and studies discussed in this section assume that teachers view homeless students as a homogenous group, when in reality this may not be accurate. This is an area that this research attempted to advance through the creation of an instrument to measure this distinction.

Measurement of Attitudes toward the Homeless

This section discusses the complex nature of measuring attitudes and provides examples of the two most relevant and widely used scales to measure attitudes toward the homeless. These scales specifically measure attitudes ranging from sympathetic to negatively prejudiced perceptions, which is similar in intent to this study. Their relevance and limitations are discussed.

In reference to measuring attitudes, Thurstone (1959) contends that an opinion is simply the verbal expression of an attitude, which entails that attitudes must be measured using opinions. This can be quite complicated for many reasons, including not knowing necessarily whether the observed measurement is in accordance with the respondent’s true attitude or actions. As Thurstone explains:

In the present study we shall measure the subject’s attitudes as expressed by the acceptance or rejection of opinions. But we shall not thereby imply that he will necessarily act in accordance with the opinions that he has indorsed. Let this limitation be clear. The measurement of attitudes expressed by a man’s opinions does not necessarily mean the prediction of what he will do (p. 229).

Thurstone’s words of caution highlight the complexity of measuring an attitude using an opinion—a process that is subject to uncertainty and has the potential for measurement error. Thurstone provides that this uncertainty may be, but isn’t necessarily the result of the respondent
intentionally misrepresenting his real attitude, but could be due to reasons of courtesy, “especially in those situations in which frank expression of attitude may not be well received” (p. 216). Therefore, as the above quote implies, the observed actions of the respondent may not coincide with their survey results. As Thurstone notes, this is why some have argued that a man’s action is a safer index of his attitude than what he says (p. 217).

As this discussion illustrates, the measurement of attitudes is complex, especially socially undesirable attitudes toward a marginalized group. Past research has attempted to measure this complex construct, including unidimensional scales assessing medical professional attitudes toward the homeless (Lester & Pattison, 2000) and both unidimensional and multidimensional scales addressing the general public’s attitude toward the homeless (Lee, Jones & Louis, 1990; Toro & McDonnell, 1992; Guzewicz & Takooshian, 1992; Kingree & Daves, 1997). These studies found that public opinions on the homeless vary widely and that these attitudes are associated with demographic differences, including one’s gender, age, education, income, religion, ethnicity, and urban location. Scales measuring teachers’ knowledge of and attitudes toward homeless students (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004) also found that teachers’ attitudes vary, while most are positive, and that certain characteristics (e.g., age and teaching experience) are associated with differing attitudes.

One of the most widely used scales to measure attitudes toward the homeless is called the “Public Attitudes Toward Homelessness” (PATH) scale. This unidimensional scale, developed by Guzewicz and Takooshian (1990), is a brief five-item Likert scale with moderate internal reliability (α = 0.74), strong factor structure, and construct validity. Although this scale has sound psychometric properties as a stand-alone scale, the authors advocate for its use in conjunction with other subscales that assess multiple attitudinal dimensions since, they argue,
homelessness is a multifaceted construct. Therefore, Guzewicz and Takooshian (1992) constructed a 38-item multidimensional Likert instrument consisting of six five-item scales (and eight background items) to measure popular attitudes about the homeless problem. The six factors contained in this unnamed 38-item instrument include the original five-item PATH scale and adapted scales assessing “poverty”, “achieving tendency”, “belief in a just world”, “authoritarianism”, and “social desirability”. These various subscales were included in this larger instrument under the hypotheses that attitudes toward poverty and the homeless differ psychologically and that attitudes toward the homeless are partly related to personality. Specifically, Guzewicz and Takooshian (1992) hypothesized “those expressing greatest sympathy for the homeless are low in authoritarianism, belief in a just world, and achieving tendency, and high in need for approval” (p. 71).

In accordance with their first hypothesis, the study revealed that there was indeed only a moderate correlation between “attitudes toward poverty” in general and homelessness in particular. This finding provided evidence of a shift in attitudes toward the homeless from the 1970’s when the homeless were viewed in a similar fashion to those in poverty, to the 1990’s when the homeless were seen quite differently from the poor. The personality results were also as expected: higher scores (indicating more sympathy with the homeless) were significantly related to lower “belief in a just world” ($r = -.14$); lower “authoritarianism” ($r = -.24$), and greater “concern for poverty” ($r = .49$). However, “achieving tendency” and “social desirability” correlations did not align with hypotheses ($r = -.02$ and $r = -.15$, respectively). These results provide that social norms may change over time, where recently it was acceptable to criticize the homeless. The results also provide support for the scale’s construct validity in the clear pattern that personality traits are associated with one’s level of sympathy toward the homeless.
(Guzewicz & Takooshian, 1992). In addition to these findings, the authors also found that the PATH scale had consistent and expected patterns of responses to four separate, but related items measuring respondents’ attitudes and perceptions of laws against panhandling, the size and stability of the homeless problem, and encounters with the homeless. These results were also interpreted as construct validity evidence by the authors.

Although the PATH scale and the 38-item instrument just discussed were found to be reliable measures that support valid inferences regarding public attitudes toward the homeless, their overall utility is limited. First, both were developed using respondents from Manhattan in New York. This sample was used to branch away from the typical college student base used for many other social psychology research projects in order to obtain a more heterogeneous group and a wider array of opinions (Guzewicz & Takooshian, 1992). However, the use of New York City residents limits the generalizability of the findings; especially given that rural homelessness is also a pervasive problem (Shifflett, 2000). In addition, five of the subscales included in the 38-item instrument yielded low internal reliability statistics (not including the PATH scale), which contributed to lower correlations with the other scales.

The PATH scale and the unnamed instrument used to measure attitudes toward the homeless developed by Guzewicz and Takooshian (1992) are certainly useful for meeting the purpose of measuring the general public’s attitudes toward the homeless, especially the urban homeless population, and associated personality characteristics of the respondents. Yet they are not appropriate to measure teacher perceptions of homeless students in that they were specifically developed to measure the general public’s opinions and are focused on the general homeless population, with no distinction made concerning homeless children.
One of the more recent instruments that also measures public attitudes toward the homeless is the Attitudes Toward the Homeless Inventory (ATHI) and was developed by Kingree and Daves (1997). This 11 item, Likert-response style, multidimensional inventory was shown to have good reliability and validity properties over the course of four separate studies with college student participants. This instrument differs from the PATH scale in that it is a multidimensional scale composed of four dimensions: “personal causation” (homelessness is due to individual deficiencies); “societal causation” (homelessness is due to societal defects); “affiliation” (willingness to affiliate with homeless persons); and “solutions” (there are viable solutions to homelessness).

The authors hypothesized that a four component solution could be obtained using a principal components analysis, which would reflect the above four dimensions. The authors also hypothesized that when using Pearson correlations to assess the inter-relationships among the dimensions, or rather, subscales, that the subscales for “personal causation” (PC) and “societal causation” (SC) would be negatively correlated, while the “affiliation” dimension (AFF) was predicted to be positively correlated with SC and negatively correlated with PC. The “solutions” dimension (SOL) was also predicted to be positively correlated with AFF, and no hypotheses were made regarding the relationships between the remaining dimensions. However it was hypothesized that ATHI scores would be related to demographic variables such as age, sex, and race as prior research has shown that younger, female and minority individuals are less likely than older, male, and majority individuals to engage in stigmatization (Geskie & Salasek, 1988).

Results from three separate studies that attempted to validate the factor structure of the ATHI instrument and their corresponding psychometric analyses provided the authors with confidence in the hypothesized four factor structure. Separate analyses using Pearson
correlations to assess the relationships among the ATHI subscales were generally consistent, where the SC subscale was unrelated to the other three subscales (except in one study where it was positively correlated with AFF and SOL). Results across the three studies also showed that PC was unrelated to SC, but negatively related to AFF ($r = -.24$) and SOL ($r = -.35$). AFF was also positively correlated with SOL ($r = .36$). These results are interpreted as respondents who expressed relatively strong beliefs in personal causes tended to report low desire to affiliate with homeless persons and were also relatively pessimistic about solutions for homelessness. Respondents who showed more desire to affiliate with homeless persons were relatively optimistic about solutions for homelessness, (Kingree & Daves, 1997).

Relations between the ATHI and demographic variables were analyzed using a three-way MANOVA that specified sex, race, and prior homelessness as between-subject factors. In general, the MANOVA results from the three studies demonstrated that responses to the ATHI subscales varied significantly in relation to race, with African Americans showing more favorable attitudes than Whites. Age and sex were significantly related to ATHI scores in two out of the three studies. Both the sex and prior homelessness variables were deemed as useful variables to include in this scale because of the sex*prior homelessness interaction that was observed on AFF and the total ATHI score. These interactions indicated that the effects of prior homelessness in a low-income sample depended on the respondents’ sex, with previously homeless females holding more negative attitudes than previously homeless males. Prior homelessness also accounted for differences in the subscale PC, with previously homeless respondents more likely to attribute homelessness to personal causes than those who had not experienced homelessness.
A consistent finding from the literature is that measuring attitudes toward the homeless is complex and is best assessed using a multidimensional approach. The use of multiple dimensions allows for measurement of the many facets of attitudes related to homelessness. Although there is no formal agreement on the most important dimensions underlying attitudes toward the homeless, there are predominant themes across the literature. These include “attribution” (personal or societal causes of homelessness); “solutions/support” (there are viable solutions to homelessness and ways to support the homeless); and “experience with/affiliation” (experience with the homeless and willingness to affiliate with the homeless).

Another facet applicable to this research arose in one study of attitudes toward the homeless (Phelan, Link, Stueve & Moore, 1995) and was coined “tolerance” by the authors, which refers to the public’s perceptions of what homeless people are like and their understandings and knowledge of the characteristics of the homeless. Similarly, this facet was included in the “Teacher Knowledge and Attitudes Scale” (Cartner, 2007), which focused on teachers’ perceptions and academic expectations of homeless students. This study and the other similar studies discussed in the previous section (Coach, 1998; Sakaris, 1999; Torres, 2004) provided additional relevant themes specifically relating to homeless students, including “education issues”, “educational and social services”, and “academic expectations” for homeless students, as well as teachers’ knowledge of the McKinney-Vento legislation.

**Construct Definition**

The above section has described some of the most relevant efforts to measure attitudes toward the homeless with specific attention to efforts concerning teachers’ attitudes toward homeless students. These studies and the other relevant literature discussed throughout this chapter have major facets and concepts in common that are applicable to this research. These concepts can be
categorized into the following themes (in italics) and dimensions (in bold). These dimensions collectively represent the construct definition in this study and represent the important themes relating to teachers’ attitudes toward homeless students.

**General homeless issues:** This includes respondents’ beliefs regarding two dimensions relating to the **attribution of homelessness:** personal or societal based on their importance in the literature from Barnett, Quackenbush and Pierce, (1997), Guzewicz and Tahooshian (1992), Kingree and Daves (1997), Lester and Patterson (2000), and Phelan, Link, Stueve, and Moore (1995). As discussed by these researchers and Coach (1998), the public and teachers tend to vary in their attribution of homelessness, which reflect societal shifts and knowledge of the issue.

This theme also includes another dimension measuring respondents’ willingness to **affiliate** with those who are homeless. This concept is grounded in the works of Barnett and colleagues (1997), Kingree and Daves (1997), Lester and Patterson (2000), and Sakaris (1999). In particular, Sakaris emphasized that groups in contact with each other tend to have better relations, such that contact seems to lead to changes in perceptions fostering more positive attitudes. Specifically, contacts leading to acquaintance promote positive interactions and attitudes and lessen prejudice, which is because contacts which result in knowledge about another person are more likely to produce realistic beliefs about this person, thus, contributing to a reduction in prejudice. Allport (1954) contends that equal status contact between majority and minority groups in the pursuit of common goals may lessen prejudice, where the effect is enhanced if this contact is sanctioned by institutional supports. These conjectures resonate to the classroom setting, and in Sakaris’s study she found that teacher reports of more positive interactions with homeless individuals were related to higher expectations for homeless students.
The second theme arising from the literature is *perceptions of homeless students*. This theme includes the dimension of *tolerance*. This dimension addresses respondents' perceptions of what homeless students are like, as well as their understandings of the characteristics of homeless students. The importance of assessing these areas is grounded in the works of Phelan, Link, Stueve, and Moore (1995) in assessing the general public’s attitudes toward homelessness and Coach’s (1999) work with teachers. The inclusion of this dimension in the TAHS scale provides the avenue to assess the extent to which teachers understand the characteristics of homeless students and will directly allow for measurement of their misconceptions. Past research has shown that public attitudes toward the homeless have shifted in the last few decades (Lee et al., 1990; Toro & McDonnell, 1992; Kingree & Daves, 1997). Therefore, in future studies it will be worthwhile to help track changing perceptions, especially given the rising rates of family homelessness.

This theme also incorporates the dimension for respondents’ academic/classroom, behavior, and long-term educational *expectations*, as a concept emphasized in an earlier section of this chapter for its important interrelationship with attitudes and their joint impact on student outcomes. Lastly this theme includes respondents’ perceptions toward *educational and social support services* for homeless students. In the broader research on the public’s attitude toward the homeless, this concept arose in multiple studies and mostly concerned respondents’ views toward solutions to homelessness and beliefs regarding types of support services to assist the homeless (Barnett et al., 1997; Guzewicz & Tahooshian, 1992; Kingree & Daves, 1997; Phelan, et al., 1995).
Education Topics is the third theme and includes the dimension education issues. This dimension addresses topics such as barriers that homeless students face in education, exceptions to enrollment policies, separate classrooms, and knowing how to help homeless students.

The final theme that reflects relevant concepts in the literature is Environments. This theme includes two dimensions—living situations and education environments. Living situations is emphasized by Swick (personal communication, 2011) and includes how respondents perceive the type of living situation a homeless student experiences and its impact on the student’s education. The education environments dimension is grounded in the work of Cartner (2007), and also reflects a debate over the types of education settings appropriate for homeless students (i.e., separate or inclusive).

In addition to the themes and dimensions relevant to the attitudes scale, this study also concerns the development of a related knowledge scale. Knowledge refers to teachers’ knowledge of the McKinney-Vento legislation and rights of homeless students and is well grounded in previous empirical dissertations investigating teachers’ attitudes toward homeless students (Cartner, 2007; Coach, 1998; Torres, 2004). As Torres (2004) observed, both teachers’ knowledge of the McKinney-Vento legislation and their attitudes toward homeless students play an important role in the creation of a conducive learning environment for this student group. As both Coach (1998) and Sakaris (1999) emphasize, the ability for homeless students to receive a high quality education to rise out of poverty and to perform adequately on standardized tests can only be accomplished with the help of teachers who have the proper knowledge levels of homeless legislation and positive attitudes toward homeless students. All of these four studies found varying knowledge levels of McKinney-Vento legislation, with the most recent study (Cartner, 2007) finding that more than half of the teachers in his study had substantial knowledge
of the legislation. This represents a shift in knowledge levels from Coach’s (1998) findings that none of the teachers in her study had knowledge of the legislation.\textsuperscript{5}

Rationale for Proposed Dissertation

Despite some similarities between the proposed work and previous dissertations attempting to measure this topic, there are some differences that make this research distinctive and worthwhile. Both Coach (1998) and Cartner (2007) created their own scales to assess this construct, but they did not provide individual item statistics, including reliability information or provide sound construct validity evidence that their scales were indeed measuring what they intended to measure. Sakaris (1999) used a pre-existing scale measuring attitudes toward homeless people in general, with no particular emphasis on students, while Torres (2004) primarily used a descriptive, qualitative approach. All of these studies, although extending the scant literature on this topic, have their limitations, the largest of which is their selective samples. Each study examined samples of teachers in select areas, including a Hawaiian Island (Coach, 1998), the Denver area (Torres, 2004), western and central parts of Texas (Cartner), and two counties in the northeast (Sakaris, 1999). These selective samples lack generalizability to larger populations, particularly on a national level. Additionally, these researchers’ intentions were not to construct a strong instrument to measure this construct, but instead to use a cross-sectional (or longitudinal, as in Torres’ work) approach to describe teachers’ attitudes at a point in time in a specific context. These reasons are distinctly different from the purpose of this study. Therefore, as

\textsuperscript{5} It is acknowledged that general comparisons made using these studies are somewhat limited due to the selective samples used in the studies, which could explain why some teachers in one location did not have knowledge of the legislation while others in another location did have this knowledge. On the other hand, it could also represent a shift in recent efforts under McKinney-Vento legislation to increase teachers’ knowledge of the law through the work of school district liaisons.
described later in this dissertation, this study greatly expands upon prior studies that have contributed to the relatively little literature on this topic.

Furthermore, the rationale for this research was strong given that as inequities and injustices in the classroom that go unmeasured and unaddressed can negatively impact student achievement for homeless students and can have long-lasting effects when coupled with the considerable disadvantages they already face (Dluhy, 1990; Downing, Eichinger & Williams, 1997; Knapp & Shields, 1990; Muscott, 1996). The creation of the Teacher Attitudes toward Homeless Students (TAHS) assessment has created the potential for new avenues of measurement to address teacher attitudes toward homeless students and contribute to the process in helping to alleviate negative teacher attitudes as one potentially devastating barrier to homeless students’ success in school. Given the difficulty in recognizing one’s own prejudice, as the compilation of feelings of like or dislike may be made without basis and are usually not the result of a thought-out decision (Davidson, 2003), it was imperative to create a reliable measurement instrument, such as the TAHS scale, in order to identify, and subsequently alleviate teacher prejudice toward homeless students.

In addition, Appendix B includes score descriptors, which will accompany the TAHS instrument in its future use. These score descriptors include an interpretation of each attitude and knowledge score. The score interpretations will help a teacher understand his or her attitude. Lastly, Appendix C of this dissertation, will also accompany the TAHS assessment in its future use, which includes information on existing resources and information on how to alleviate teacher prejudice, as the next section describes.
Alleviating Teacher Prejudice

The recognition of a teacher’s own prejudice is not an easy task (Obdiah & Teel, 2001). Overcoming one’s negative prejudice is certainly an even more difficult feat. Despite the challenges involved, this process is necessary in order for marginalized and vulnerable children, especially homeless children, to receive an equal opportunity in the classroom and an equitable educational experience.

The provision of an accurate measurement of their attitudes is essential in assisting teachers to overcome their prejudices. As briefly mentioned in the previous chapter, behavioral change theory supports recognition of the aversive behavior as the first step in a process of change and behavior modification (Meichenbaum, 1977). Through the use of a social justice framework in this context, Zeichner (1993) suggests that teachers’ orientations toward marginalized children can be strengthened through reflection on one’s attitudes and perspective relating to homeless children and families. Throughout these processes educators can develop more sensitive understandings of the contexts and situations of homeless children and families. When teachers become more attuned to social justice issues pertaining to marginalized groups, their insights can help transform their teaching practices (Friere, 1970; Greene, 1998). This important notion relates to the broader goal of this research, which is not only to provide the basis for teachers to reframe their negative attitudes toward homeless students, but also to encourage them to transform their teaching practices to provide for a more fair and equitable situation in schools and society.

These critical recognition and reflection processes mentioned above can begin with the results of the TAHS assessment by allowing teachers the opportunity to reflect on their perceptions and teaching practices. As teachers receive their results, they can begin a process
from recognition of their level of prejudice to re-conceptualization. Although they were not involved in this dissertation, in the future principals and other administrators will also be able to capitalize on the utility of the results in creating professional development and educational opportunities for teachers. Currently there are numerous resources dedicated to aiding teachers in the alleviation of their prejudices as well as teacher resources for teaching toward diversity and social justice in the classroom (e.g., Adams, Bell, & Griffin, 1997; Danks & Rabinsky, 1999; Hall, 1999). These opportunities and resources for teachers can include activities that arouse what Freire (1970) named “conscientization” and what Greene (1998) describes as a “heightened sense of social consciousness that makes injustice unendurable” (p. 30). The details of the way to transform teacher practices using this framework is outside the realm of this study, but some pertinent information and suggestions for improving attitudes toward homeless students are included in an appendix (see Appendix C) and is also available in other research (Powers-Costello & Swick, 2008; Greene, 1998).

For this study it is important to note that with the assistance of these various resources teachers can use the assessment results as an aid in the self-reflective and critical assessment processes encouraged of teachers (Powers-Costello & Swick, 2008). Teachers’ awareness of the challenges and situations experienced by homeless students can enrich their understandings of the complex and challenging lives these children experience (Powers-Costello & Swick, 2008) and can allow them to empower homeless students and their families (Swick, 1999). In turn, this can facilitate the development of more sensitive, responsive, and empowering relationships between teachers and their homeless students, which may help lay the foundation for increased achievement. However, future studies will be needed to investigate the relationship between reformed teachers’ attitudes and the achievement of homeless students in their classrooms.
Benefits for Homeless Students

Teachers can exert a very positive and empowering influence on homeless students in helping them meet healthy developmental goals, and help remove many of the barriers to education that impede a homeless student’s chances for success in school. This research provides an efficient, reliable, and useful measurement instrument that permits valid inferences regarding teacher attitudes toward homeless students as a first step in this challenging, yet essential self-reflective and behavior medication process for teachers with negative attitudes.

As the self-reflective and behavior modification process begins to alleviate negative teacher attitudes, this will facilitate their ability to fulfill their unique position in addressing the many needs of students without homes. These children’s needs stem from the fact that they are often the victims of severe trauma and are more often afflicted by serious health conditions, both physical and mental, than children from middle-class families (NCFH, 2009). Homelessness also heightens many needs and often creates new stressors in these children’s lives (Swick, 1999). Identity, security, and a sense of place in the community are some of the needs that are especially important to address for homeless children (Bassuk & Rubin, 1987). Other needs that are essential to the growth of healthy persons, such as love and trust, are often difficult for homeless children to develop. Given the considerable time students spend with their teachers and a teacher’s unique position as a stable influence on homeless students’ otherwise unstable lives, recognition and treatment of their prejudice is especially important for teachers.

Teachers can offer the classroom as one secure place for children to establish some identity elements within their developing personhood (Swick, 1999). Additionally, teachers can develop attachments with children, which can help them learn the positive aspects of strong emotional ties with other caring persons (Caldwell, 1989). Physical and psychological security
development in homeless children is also disrupted by their constant mobility (Bassuk & Rosenberg, 1990), which teachers can address by providing this security through daily caring rituals such as share times, meals, and extra-curricular activities (Swick, 1999).

When homeless children’s priority needs are met, such as urgent medical attention, shelter, food, or protection from domestic violence, teachers can continue to help meet the needs of these children and exert a positive impact on them in many ways. Teachers that value, accept, and support homeless students can help lessen the emotional strain they endure by providing an environment of acceptance, support and hope (Swick, 1999). Not only can teachers help the student cope with the stress they face, but they can also provide resources, such as a social worker, to assist the child through a difficult time. Teachers can also help homeless students obtain waivers for activity participation fees and basic school supplies, as well as help homeless students be evaluated for special education programs and services, participate in after-school events and extracurricular activities, and access before- and afterschool care programs—all of which service providers have identified as barriers to homeless students’ success in schools (NLCHP, 1995).

Summary
This chapter has introduced the background concepts relevant to this study, including the underlying social justice framework, the definition of homeless, the important role of education, and an overview of attitudes in general. The chapter discussed in greater detail the role of education as it pertains to homeless students, how homelessness impacts a child’s education, the barriers that have created inequalities in education for homeless students, and the federal policy response aimed at alleviating these barriers. As discussed, the federal policy—the McKinney-
Vento Act—has been successful in alleviating some barriers to the educational experience of homeless students, yet many barriers remain including difficulty identifying homeless students, transportation, eligibility for homeless services, school selection, school records, immunizations, other barriers, and other medical records, among others (First Focus, 2010; NCHE, 2009).

The topics of attitudes and prejudice were also discussed at length, particularly as they pertain to the homeless and specifically teacher attitudes toward homeless students. The homeless population, including children, has endured an extensive history of prejudice, stigma and discrimination (Barak, 1991; Shifflett, 2000). Perspectives toward the homeless have shifted over time where some homeless people and children were viewed as deserving poor, while others were viewed as undeserving. Research studies cited throughout this chapter also document the changing perspectives toward the homeless, who were seen in a similar fashion to those in poverty during the 1970’s to the 1990’s when they were seen quite differently from the poor (Guzewicz & Takooshian, 1992). Teacher attitudes are a central topic of this study and therefore were discussed in detail, including a discussion of how teachers’ attitudes, expectations, and labeling bias can affect their behavior towards students and in turn, this can affect students’ achievement, learning, motivation and self-concept (Brophy, 1979; Good, 1981; Weinstein, 1998). However, multiple studies (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004) investigating teachers’ attitudes toward homeless students show that teachers in various public school settings have mostly positive attitudes toward homeless students and generally low knowledge levels of the McKinney-Vento legislation.

After a presentation of the relevant literature the chapter introduces and details the construct definition of teachers’ attitudes toward homeless students. The construct is multi-
faceted and contains nine dimensions grouped into four themes: general homeless issues, perceptions of homeless students, education topics, and environments.

This chapter also discussed how the proposed study differs from and adds to past research efforts to measure teacher attitudes toward homeless students, and provides a rationale for the proposed dissertation. Mainly, the purpose of the study differed from previous studies as it was primarily concerned with the creation of a reliable measurement instrument that supports valid inferences regarding the construct of interest, while the prior studies were primarily point-in-time depictions of the attitudes of teachers in localized contexts. Additionally this study extends prior research by using a diverse sample, which the next chapter discusses in more detail along with an overview of the sampling and item generation procedures and statistical analyses.
CHAPTER THREE: METHODS

As discussed in the previous chapters the purpose of this study was to create a measurement instrument that reliably measured teachers’ attitudes toward homeless students and allowed for valid inferences to be made regarding this construct. In order to achieve this aim the development of the TAHS scale used sound measurement principles throughout the scale construction process. The methods presented in this chapter are divided into three phases: Phase One—item development and pilot testing; Phase Two—data collection; and Phase Three—validation. Specifically, experts in the areas of homelessness, prejudice, education, and measurement theory guided the item development; data collection included a diverse sample of professional teachers; and validation studies were conducted to validate the inferences made from the TAHS scale results.

Participants

In order to create an appropriate measure of teacher attitudes toward homeless students this study required the participation of many individuals. The primary participants in this study were current teachers with varying rates of experience with homeless students. As mentioned in previous sections, current scales measuring attitudes toward the homeless, or toward homeless students in particular, were not constructed using nationally representative samples or with teacher-only samples. The use of select samples, including college students and teachers in specific areas, limits the utility of these instruments for use with a varied audience. These limitations provided further justification for the development of the TAHS scale. They also served as a reminder of the importance of using an appropriate sample to meet the intended purposes of a measure. As the TAHS scale specifically intends to measure teacher attitudes in
public schools across the nation, efforts were made to obtain a sample representative of this target population.

A geographically diverse group of teachers was selected for participation in this study. This sample of teachers was selected using a national listserv of current teachers maintained by researchers in the Center for the Study of Testing, Evaluation, and Education Policy (CSTEEP) at Boston College. This listserv represents the sampling frame in this study and includes over 14,000 teachers who volunteered to participate in one or more of CSTEEP’s studies in the past. A two-stage sampling procedure was used to select 6,000 teachers from this listserv. The first stage selected all of the participants in the sample with a personal email address. The second stage used a stratified random sampling procedure to select potential respondents at random from the pool of school-provided email addresses. This two-stage procedure ensured that a variety of personal and school-provided email addresses were included in the sample.\textsuperscript{6} Personal email addresses were particularly desired in the event that initial contact with the teachers for the formal item development (Phase Two) occurred outside of the academic year.

The sample of 6,000 teachers represented teachers from 33 states.\textsuperscript{7} The highest concentrations of teachers were from Mississippi (37%), West Virginia (20%), and Kentucky (11%). Given the geographically diverse nature of this sample, it represents the population for which the TAHS scale intended to generalize—that is, public school teachers across the United States. The sample is also qualitatively similar to the target population as it represents teachers. However, information pertaining to the contextual and demographic characteristics is unknown.

\textsuperscript{6} Specifically, the following email address extensions are included in the final sample: Hotmail (950); Yahoo (2027); Comcast (293); Gmail (233); AOL (635); Verizon (143); state.us (1719).
\textsuperscript{7} AK, AL, AR, AZ, CA, CO, DE, FL, GA, HI, IA, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NM, OK, OR, PA, SC, TN, VA, VT, WI, WV, WY
for the entire sample, although this information was collected during the three phases of this study, and is presented in the next chapter.

Initially the Phase One pilot test process began by selecting a random subsample of the sample of 6,000 teachers. Next a subsample of 4,000 teachers was selected of the remaining sample for use in the primary data collection (Phase Two). The remaining 1,000 teachers were used for the final scale validation in Phase Three. The use of subsamples from the initial pool of 6,000 teachers minimized the threat that the samples may not represent the target population. By randomly drawing these subsamples from the initial sample, which represents the target population geographically and qualitatively, these subsamples had a high probability of also representing the target population.

The sample sizes were chosen to be large enough to estimate item parameters with relative stability, as 200 respondents is viewed as a minimum for an item analysis study (Crocker & Algina, 1986), while a general rule of thumb is to have five to ten times as many subjects as items (Nunnally, 1967). Across all phases the respondents were given only one opportunity for participation. This structure mitigated the “testing” threat, which can occur when prior exposure to items impacts the responses provided on subsequent administrations.

An additional sample was recruited for this study to review items for their quality. This quality assurance group consisted of prospective and current teachers in graduate education programs at Boston College. The use of this convenience sample of prospective and current teachers assisted in the item development and pilot testing phase of this study.

An expert committee was also involved in this study. The use of an expert committee was recommended as it can meet multiple purposes related to maximizing the content validity of the scale (DeVellis, 2003). In this study the expert committee was composed of practitioners and
researchers. The practitioners included one principal/former teacher with over twenty years of experience working with homeless children in urban schools, and three professionals from the National Center on Family Homelessness—a small, Northeast-based, not-for-profit organization that participates in research, evaluation, policy and advocacy efforts relating to family homelessness. The researchers included two full-time professors from the University of South Carolina whose research interests specifically focus on teachers attitudes toward homeless students. The term “expert” in this study is defined as professionals who have either a graduate degree in education or social work or a medical degree and have at least seven years of experience in the field. They are familiar with the unique needs and experiences of homeless children, laws governing homeless students, and general homelessness issues.

The participants involved in this dissertation did not receive a monetary benefit, but as an incentive for participation the respondents were automatically considered for raffle items, including two Kindles and an iPad2. Participants’ names were not retained for any other purpose except for the raffle, and were not linked to their other responses. The raffle prizes were awarded to one randomly selected participant from each phase of the study.

Procedures
This section discusses the procedures that were used to (a) contact and obtain the participation of the research participants, and; (b) what their participation entailed. It also provides an overview of the procedures used to create an initial item pool.

Participation Procedures
Experts in the realm of homelessness participated in the first phase of this study—the item development and pilot testing phase. This nonrandom sample of experts was purposively
recruited for their expertise in the field. The researcher has an established relationship with these participants and contacted them directly through personal correspondence. The participation of the experts began once the initial pool of items was constructed and before presenting any items to teacher respondents. This experienced committee primarily reviewed the item pool to confirm or invalidate the definition of the construct of attitudes presented in this study, and to rate the relevance of each item to the construct. Additionally the committee evaluated the items’ clarity and conciseness, assessed the items’ face validity, and provided insight into whether the pool of items excluded any important aspects of the construct.

After the expert committee review, initial items were pilot tested for language, clarity, conciseness, construct representation, and overall quality using the quality assurance group discussed above. This group from Boston College was recruited through the course professor, who volunteered his class members for this task. Students were not required to complete the task.

Additional pilot testing was conducted using the pilot group of 1,000 teachers, which concluded the item development phase (Phase One) of the study. The participants in this second pilot group were recruited to participate in the study through direct email correspondence to the email addresses provided to the CSTEEP listserv. Participants had the opportunity to respond to the items after the items underwent review by the expert committee and the quality assurance pilot group. The primary purpose of this pilot phase was to determine the internal structure and dimensionality of the scale, as well as to gather item statistics and information about item functioning to help guide the formal data collection process in Phase Two.

Data collection for Phase Two occurred after the pilot testing was completed. The participants in the data collection sample were presented, but not required to answer all of the TAHS items, the demographic items, and the social desirability scale items. These participants
were also contacted through direct email correspondence to the email addresses provided to the CSTEEP listserv. In the email the participants were given a description of the study, the personal link to the online TAHS assessment, and information about the raffle.

Phase Three—the validation study—used the validation sample described previously. Like the sample used in Phase Two, contact with and recruitment of this sample occurred through direct email correspondence to the email addresses provided to the CSTEEP listserv. As discussed later in this chapter, this validation sample was presented with the final TAHS assessment items as well as other related scales to provide construct and convergent validity-related evidence.

Initial Item Generation

The initial item generation process for the TAHS assessment entailed the collection of items from other measures assessing either attitudes toward the homeless, or teachers’ attitudes toward homeless students, as well as original item creation. Items from the most commonly used scales measuring attitudes toward the homeless were purposively selected for consideration in the TAHS scale. However, the items from these scales were not directly relevant to the attitude scale in this study, which specifically measures teachers’ attitudes toward homeless students, as opposed to the general public’s perceptions of the overall homeless population. Inclusion of items in the initial item pool was dependent upon their relevance to the nine domains of attitudes (discussed in the previous chapters and in the next section). Some item modifications were necessary for construct-relevant purposes, while others were included in their original format. A similar process was used to select items from scales measuring teachers’ attitudes toward homeless students and teacher’s knowledge of the McKinney-Vento legislation. After assessing the extent to which these items represented the nine domains comprising the TAHS scale, it was
necessary to create additional items to measure important aspects not adequately represented. The initial item pool consisted of 59 items in their original format from pre-existing scales; 66 modified from pre-existing scales; and 67 newly created for a total of 176 items. After the quality assurance pilot testing and the expert committee review a subsample of this item pool was selected for the pilot study with 1,000 teachers. Items were removed if the quality assurance and expert groups found the item confusing, irrelevant, or not applicable to assessing teachers’ attitudes toward homeless students. After the expert committee review an additional 16 items were created to address important concepts noted by the experts. This process yielded a total of 113 items (23 original, 39 modified, and 51 new).  

Instrumentation

The measurement of attitudes is complex, especially socially undesirable attitudes toward a marginalized group such as homeless students. In order to address this complexity, the final version of the TAHS assessment consisted of multiple sections: attitudes, knowledge, social desirability, and demographics. These sections were designed to help collect pertinent information, which cumulatively was used to measure and understand the broad construct of attitudes toward homeless students. It is important to clarify that the TAHS assessment is comprised of different sections, three of which are scales—the TAHS attitudes scale, a knowledge scale, and a social desirability scale. This discussion presents these sections in a specific sequence, which represents the sequence in which the items were presented to respondents. The scales could not be intermixed due to their varying response option formats.

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8 Many items mimic the multiple-choice format, consisting of one item stem and a set of options. However, on this instrument each option represents an opportunity for a response using a Likert-style response format.

9 The demographic information is not a scale per say, but rather a section of relevant items, and is therefore only referred to as a section.
(the attitude item response options are a 5-point Likert-style, while the knowledge are a 3-point true/false/uncertain option, while the social desirability scale are dichotomous true/false).

In this study the TAHS assessment was web-based. It was only available to respondents via a personal email invitation. The assessment answers were obtained in a secure manner via the web-based data collection tool Qualtrics™. This software can both collect data anonymously and maintain a list of respondents’ contact information, which is stored separately from the data. This feature was particularly useful in this study so that participants could be selected for the raffle prizes.

The promise of anonymity was also advantageous for minimizing a potential threat to the assessment’s reliability. As with any sensitive subject, respondents in this study may not have felt comfortable expressing their true attitude for fear of repercussion or stigma, especially if they harbored ill-intentioned attitudes. To minimize this potential threat during recruitment of teachers it was made clear that the assessment was a non-verbal, self-report instrument, and that no repercussions were attached to their participation. Appendix D contains the recruitment materials used throughout the three phases.

Sections, Scales and Subscales of TAHS Assessment

The first section is the core of the TAHS assessment: the attitudes scale (i.e., the TAHS scale), which measures the construct domain of teachers’ attitudes toward homeless students. Acknowledging that a person’s attitudes are subject to change and are not assumed to be constant or enduring, the items comprising this scale provide a measurement of this complex construct. It is intended to be used numerous times to gauge a teacher’s progression in overcoming prejudiced attitudes. This scale uses Likert-style response options ranging from strongly disagree (1) to strongly agree (5), with a neutral response option (i.e., uncertain). After any necessary recoding
of negatively worded items, a high score indicated more positive attitudes toward homeless students. The inclusion of the response option for uncertain was deliberate and is relevant to the future of the TAHS scale. Although it is outside of the scope of this dissertation, it is the author’s intent that the TAHS assessment will be available to teachers in the future. Teachers will have access to various resources aimed at developing more positive attitudes toward homeless students. Using these or other resources, teachers will have the ability to track the progression of their attitudes. It is expected that some teachers will have uncertain attitudes toward homeless students on their first TAHS assessment administration, but with the use of resources, they will progress to hold more positive and developed attitudes. The exploration of this hypothesis was not possible in this dissertation because respondents only participated on one occasion. Regardless, it was important to include this neutral response option for the scale development process.

The attitudes scale items reflect multiple dimensions of attitudes toward homeless students, where a dimension represents a grouping of related items that measure a latent variable. The previous chapter discussed the multiple dimensions that represent the TAHS scale, therefore that discussion will not be repeated in detail. In brief, the nine dimensions are organized around important four themes in the literature include (1) General Homeless Issues; (2) Perceptions of Homeless Students; (3) Education Issues; and (4) Environments. These themes are only used to help categorize and make sense of the dimensions; they do not represent categories for separate scores—only one attitudes score is produced by the TAHS scale. Each dimension was theorized to represent its own linear continuum, and collectively these nine dimensions contributed to the measurement of the construct of teachers’ attitudes toward homeless students. Table 3.1 provides an overview of the sections of the TAHS assessment.
Table 3.2
Overview of TAHS Assessment

<table>
<thead>
<tr>
<th>Section or Scale</th>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
<th>Section 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
<td>Attitudes</td>
<td>Knowledge</td>
<td>Social desirability</td>
<td>Demographics</td>
</tr>
<tr>
<td>General Homeless Issues</td>
<td>General Homeless Issues</td>
<td>Perceptions of Homeless Students</td>
<td>Education Issues</td>
<td>Environments</td>
</tr>
<tr>
<td>1. If there were homeless students in my classroom I would continue to teach them the same way I teach other students.</td>
<td>1. Academic expectations should be lowered for homeless students.</td>
<td>1. I believe that separate schools for homeless students infringe on their educational rights.</td>
<td>1. Children are considered homeless if they live with relatives or friends because of financial hardship.</td>
<td>1. What is your race?</td>
</tr>
<tr>
<td>2. People who work hard are not likely to become homeless.</td>
<td>2. If I suspect a child is homeless I would contact: a. their parent(s). b. the principal c. my colleagues d. the guidance counselor. e. the school district liaison. f. no one.</td>
<td>1. Homeless students have fewer educational rights than non-homeless students.</td>
<td>2. I never hesitate to go out of my way to help someone in trouble.</td>
<td>2. How many years teaching experience do you have?</td>
</tr>
</tbody>
</table>

Table 3.1 provides an example of the four themes included in the TAHS scale. Separate, yet related, dimensions comprise each of these themes, which were discussed in detail in the previous chapter, and are presented briefly here:

- **Theme 1: General Homeless Issues**
  - Attribution
  - Affiliation: Personal Causation
  - Affiliation: Societal Causation
- **Theme 2: Perceptions of Homeless Students**
  - Expectations
  - Educational and Social Support Services
  - Tolerance
- **Theme 3: Education Topics**
  - Education Issues
- **Theme 4: Environments**
  - Living Situations
  - Education Environments
Each dimension can be thought of as a characteristic related to the larger construct of teachers’ attitudes toward homeless students. This approach is discussed by Wilson (2007) and is predicated on the idea that there is a single underlying characteristic that an instrument is designed to measure. In the context of this study, the nine dimensions each represent their own subscale. When characteristics are considered one at a time the real survey is seen as being composed of several instruments, each measuring a single characteristic (Wilson, 2007). Here the ten subscales each measure important aspects of the larger construct. Collectively these subscales measure teachers’ attitudes toward homeless students.

As Kingree and Daves’ (1997) study using the ATHI instrument showed, the use of multiple dimensions, or subscales, can be useful to understand individuals’ attribution of homelessness (i.e., personal or societal causes) as well as their willingness to affiliate with homeless persons. Given this reasoning these subscales were included in the TAHS scale, since teachers are required by their role to affiliate with homeless students. Their willingness to do so, as measured by these items, is an important consideration in measuring attitudes toward homeless students. Chapter Two’s discussion of the construct definition provided a rationale for the inclusion of each of the subscales and the knowledge scale and therefore is not repeated here.

As shown in Table 3.1, the third section of the TAHS assessment incorporates the use of an established social desirability scale (see Appendix E for the social desirability items). The inclusion of a well-established social desirability scale allowed this investigator, and will allow future respondents, to assess how strongly social desirability influences responses. This serious source of construct irrelevant variance, or measurement error, can occur when respondents do not answer the items for the assumed reasons, but rather respond by their strong motivation to present herself or himself in a way that society regards as positive (DeVellis, 2003). Given the
sensitive nature of this construct Strahan and Gerbasi’s (1972) ten-item scale, adapted from Crowne and Marlowe’s full scale (1964), was used for meeting this purpose. If a respondent’s score indicated socially desirable responses the case was not included in the analyses.

The last section of the TAHS assessment is demographic information. The full list of items are displayed in Appendix F. The collection of demographic information was collected using a structured-response format, where the participant selected their response from a list of possible choices. This section of the assessment measured known correlates of attitudes toward the homeless. Multiple studies (Lee, Jones & Louis, 1990; Guzewicz & Takooshian, 1992; Kingree & Daves, 1997) document widely varying public opinions toward the homeless, which are associated with demographic differences, including one’s gender, age, education, income, religion, ethnicity, and location. Scales measuring teachers’ knowledge of and attitudes toward homeless students (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004) also found that teachers’ attitudes vary, while most are positive, and that certain characteristics (e.g., age and teaching experience) are associated with differing attitudes. Therefore, the TAHS demographic section included items that collect information on each of these variables in addition to a teacher’s years of experience, for a total of 12 items.

Statistical Analyses

As introduced in the first chapter, the primary research question of this study was stated as:

*Can a set of underlying dimensions be identified and used to effectively measure teacher attitudes toward homeless students?*

---

10 The syntax and commands used to conduct the analyses are presented in Appendix G.
This research question addressed whether an underlying set of dimensions could be used to effectively measure the construct of teachers’ attitudes toward homeless students. Here the term “effectively” had a three-fold meaning: first, it referred to the reliability of the overall scale and subscales, where a high reliability was desirable (e.g., Cronbach’s alpha ≥ .75); second, it referred to the extent to which valid inferences could be made regarding teachers’ attitudes toward homeless students and not some other construct; and lastly, while achieving the first two points, this scale’s effectiveness depended on its efficiency, where a small number of items was desired in order to decrease the burden on respondents. It was hypothesized that the underlying dimensions would represent affiliation, attribution (personal, societal), expectations, educational supports, tolerance, educational issues, living environments, and education environments.

To answer this research question the primary analytic procedures used in the development of the TAHS scale included both classical test theory (CTT) and item-response theory (IRT) analyses. These methods were employed for data from all three phases of the study. Specifically, factor and Rasch (1961) analyses were used to analyze the dimensionality of its multiple subscales and to investigate item properties. Additionally, Cronbach’s alpha was used to measure the internal consistency of the subscales. Item difficulty and item discrimination were used to assess the items’ functioning, and differential item functioning (DIF) procedures were used to help ensure the items were free from bias.

As discussed in the previous section, it was theorized that multiple underlying dimensions representing teachers’ attitudes toward homeless children would comprise the TAHS scale. That is, only the items measuring teachers’ attitudes toward homeless students were theorized to represent a multidimensional construct. However, within each of the dimensions it
was theorized that a unidimensional subscale existed (e.g., the affiliation dimension of the attitude scale was theorized to be unidimensional).

The assumption of unidimensionality is useful for many reasons in scale development, including easing the interpretability of results, but especially because it allows for the creation of an operational definition of the construct. Building upon the principle of unidimensionality, another principle underlying IRT is that if a variable is hypothesized to exist as a unidimensional construct, then it is possible to develop a hierarchical series of items that increase from a low level of difficulty to a higher level of difficulty (to accomplish or endorse) (Ludlow, Enterline, & Cochran-Smith, 2008). In turn, this continuum of ordered items represents the operational definition of the construct. Rasch measurement, which is one theory of IRT measurement, emphasizes the principles of unidimensionality, a hierarchical ordering of items, and a continuum of the construct definition to guide the scale construction process.

These principles of the Rasch model provide a basic framework for measurement against which empirical data can be compared. The model is premised on the idea that useful measurement involves the examination of only one attribute at a time (unidimensionality) on a hierarchical line of inquiry. This line of inquiry is the theoretical idealization against which patterns of responses can be compared that do not coincide with this ideal (Bond & Fox, 2007). In other words, Rasch models, in contrast to other IRT models, are used as a confirmatory test of the extent to which scales have been successfully developed according to explicit *a priori* measurement criteria.

These criteria played an important role in instrument development, which Wright and Stone (1979) describe as a four-step process. This first step in this process includes stating a clear definition of the construct of measurement. This is important so that the second step can be
achieved, which involves constructing items that are believable realizations of this definition and which can elicit signs of it in the behavior of the measured persons. Third, using a suitable sample, the items must lead to results that are consistent with the instrument developer’s intentions (which are posed \textit{a priori}). Lastly, the observed patterns of responses must be consistent with the instrument developer’s expectations before any person’s score can be used as a basis for their measure.

This study followed the principles of Rasch measurement. The construct of teachers’ attitudes toward homeless students was defined in such a way that each dimension representing this complex construct was thought of as unidimensional. The selected and created items represented believable realizations of this construct, which were used to measure the range of attitudes toward homeless students, which was hypothesized to range from negative attitudes to positive attitudes. Not only did the principles of Rasch measurement guide the initial scale development process in this study, but they also played a major role in determining the success of the process. Using the statistical software Winsteps, the Rasch rating scale and partial credit models were used as a confirmatory test of the extent to which the attitudes and knowledge scales were successfully developed according to the explicit \textit{a priori} measurement criteria described here.

In general, the Rasch family of models are probabilistic models that model item responses, as opposed to sum total responses, to provide an estimate of the probability that a person with any level of attitude will respond positively to an item at any item scale value. Rasch models assume that a person’s position on the underlying construct and the item scale value (i.e., item difficulty) drive item responses. However, the Rasch family of models, unlike other IRT models, do not model deliberate or unconscious deception, guessing, or any other parameters,
such as item discrimination. The models provide both ability and item parameter estimates on a common scale that are invariant across administrations. Invariance in this context means that a person’s attitude (or knowledge) estimate was not dependent on the items they received while item parameter estimates were not dependent on the sample of people responding to the items. This is a unique principle of IRT models and sets it apart from classical test theory methods that are sample- and item-dependent.

The Rasch rating scale model was the most appropriate Rasch model to use in the development of the attitudes scale for it allows the inclusion of polytomous items and maintains equivalence in the progression from one lower level scoring category to the next highest category. That is, it requires the same amount of attitude to move from one scoring category to the next for all items. This model was used for each of the nine dimensions. Equation 3.1 displays the statistical representation of the rating scale model:

\[
\pi_{ni} = \frac{e^{\beta_n - (\delta_i + \tau_j)}}{\sum_{k=0}^{m} e^{\delta_i + \tau_j}}
\]  

Equation 3.1

Where,
- \( \pi_{ni} \) is the probability of person \( n \) responding in category \( x \) to item \( i \);
- \( e \) is a transcendental number with the value of 2.718;
- \( \beta_n \) is the ability of person \( n \);
- \( \delta_i \) is the location or “scale value” of item \( i \) on the variable;
- \( \tau \) is the location of the \( k^{th} \) step in each item relative to that item’s scale value: it is also known as the “threshold” parameter, which are assumed to be the same across all items;
- \( x = 0,1,\ldots,m \).

The expression in Equation 3.1 shows that besides including a person ability parameter (\( \beta \)) this model only includes an item difficulty parameter (\( \delta \)), which is the only item characteristic that is assumed to influence examinee performance. The person ability and item difficulty estimates are reported in a metric referred to as logits. These estimates simultaneously portray the structure of the teacher attitudes toward homeless students variable and the location of each teacher along the variable.
The information obtained from the rating scale model was used as a confirmatory test of the extent to which the TAHS scale had been successfully developed according to the Rasch measurement criteria. Specifically, the unidimensionality of each subscale was assessed empirically by using fit indices. Fit statistics help to determine whether each item contributes to the measurement of only one construct (Bond & Fox, 2007). An examination of fit statistics can reveal items that do not fit the unidimensional construct by diverging from the expected ability/difficulty pattern. Additionally, the observed patterns of item responses were used to assess the extent to which the hypothesized continuum had been achieved. The use of variable maps, which display the item difficulty and person ability estimates on the common logit scale, played an important role in this process.

Modifications to the TAHS scale were made based upon the results from these procedures as well as the results of the validation phase. The next section discusses the specific methods used to address validity and construct irrelevant variance as they relate to the TAHS scale development process.

Validation of the TAHS Scale

After the final TAHS items were chosen for their desirable properties and functioning (i.e., acceptable fit statistics, acceptable item difficulty and discrimination, and item-total correlations) from the pool of potential items, reliability and multiple types of validity evidence (Messick 1989) was collected. As Messick (1989) contends, there is one overarching form of validity evidence—construct validity—that subsumes the other facets of validity evidence. Construct validity, in Messick’s terms, “is based on an integration of any evidence that bears on the interpretation or meaning of the test scores” (p. 17). The TAHS scale scores are critical in
helping teachers understand their attitudes toward homeless students; therefore it was important to assess the construct validity of this instrument. This was explored by using the Rasch analyses, mentioned above, as well as by factor analyses.

Factor analytic procedures were used to examine the data in this study to establish a theoretically sound, multi-dimensional attitudes scale and to provide construct validity evidence. As a data reduction method, factor analysis is useful in detecting the structure and underlying relationships between variables. The purpose of data reduction is to remove redundant variables from the data set, perhaps replacing the entire data file with a smaller number of uncorrelated variables (Kim & Mueller, 1978). Factor analysis is based on the fundamental assumption that some underlying factors—a smaller number than the number of original variables—are responsible for the covariation among the observed variables. The correlations between the variables can be used in an attempt to arrive at conclusions about the underlying factors that are assumed to exist.

Although traditional factor analyses are useful for summarizing data so that the empirical relationships can be better understood, when the factors are correlated a broader level of generalization is not captured by the first-order analysis (Gorsuch, 1983). Instead, second-order factor analysis is useful to meet this purpose. Thompson (1990) offers this analogy comparing factor analyses to examining mountain ranges: Whereas first-order factor analysis provides a close-up view on the valleys and peaks of mountains, second-order factor analysis is like looking at the mountains at a greater distance and yields a potentially different perspective on the mountains as constituents of a range. Therefore, the second-order factor analyses were used in this study to examine the data from a broad perspective. Residual factor analyses were also conducted as a way to examine the remaining variation from the first-order factor analyses.
Another important aspect of validity that was considered in the validation of the TAHS scale was content validity. In general terms, content validity concerns whether the content of the instrument reflects the construct it purports to measure, as well as the relevance and representativeness of the items with respect to the construct (Messick, 1989). To address the content validity in this study involved clearly defining the construct being measured; explicating a theoretical framework underlying the hypothesized relationship between behavior and possessing of varying amounts of the construct; and collecting logical and empirical evidence for the hypothesized theory, as is suggested by Fraenkel and Wallen (2006). The expert committee and members of the dissertation committee assisted in these processes, as well as in reviewing the scale items to determine the extent to which they were representative of the construct.

*Convergent Validity*

One of the focal points of the validation process for the TAHS scale included an emphasis on convergent validity. This type of construct-related validity refers to the relationship between scores obtained using an instrument and scores obtained using other instruments that measure the same construct. The convergent validity of the scale developed in this study was explored by its correlation with other related scales, specifically the PATH, the ATHI, and the Learning to Teach for Social Justice Beliefs (LTSJ-B) scale (Ludlow, Enterline, & Cochran-Smith, 2008). Specifically, correlations were conducted using Phase Three data only and used the Rasch person measures, which are the Rasch scale scores. These scores are preferable to raw summed total scores because when an item response was missing because the model estimated the respondent’s probable rating without imputing the missing data, such as is the case when simply using summed raw scores.
As an example, multiple dimensions of the ATHI instrument (e.g. attribution of homelessness—personal or societal; willingness to affiliate with homeless persons; and conceptualization of solutions to homelessness) were theorized to relate to the TAHS scale. Teachers who view homelessness as a personal problem (i.e., the result of laziness or mental defect) or who are unwilling to affiliate with homeless persons were hypothesized to yield low scores indicating negative prejudice on the TAHS scale. The observation of such relationships would provide validity evidence for the TAHS scale. Additionally, the relationship between the ATHI subscale for affiliation and the TAHS subscale for affiliation, and the TAHS scale overall, has substantive significance since a teacher’s role requires affiliation with all students, including those who are homeless.

Kingree and Daves (1997) conducted similar correlational studies in the validation of the factor structure of the ATHI by comparing relationships among the subscales of the instrument. Their results provided that respondents who expressed relatively strong beliefs in personal causes tended to report low desire to affiliate with homeless persons and were also relatively pessimistic about solutions for homelessness. Also, respondents who showed more desire to affiliate with homeless persons were relatively optimistic about solutions for homelessness. Correlational analyses were conducted to replicate the observed relationships between the subscales of the ATHI instrument, in order to assess whether these data replicated the results from Kingree and Daves’ (1997) validation study of the ATHI instrument.

The intercorrelations among the PATH scale, the subscale for “belief in a just world”, (hereafter referred to the JUST subscale), and the TAHS scale were explored in order to confirm the TAHS scale’s construct validity. According to the “just world theory” individuals have a need to believe that they live in a world where people generally get what they deserve (Lerner &
Miller, 1978). Therefore, teachers were hypothesized to score low on this subscale given that from a social justice perspective, a teacher’s role is to enhance students’ learning and their life chances by challenging the inequities of school and society (Cochran-Smith, 2008). That is, using a social justice framework, teachers understand that there are inequities in the world and therefore were hypothesized to have more favorable scores on the JUST subscale.

Lastly, the Learning to Teach for Social Justice Beliefs (LTSJ-B) scale (Ludlow, Enterline, & Cochran-Smith, 2008) was used to help validate the TAHS scale. The LTSJ-B is an instrument measuring the degree to which teachers embody a social justice philosophy in their teaching practices. The importance of strengthening teachers’ orientation toward children and families who are marginalized through a social justice perspective is well documented (Cochran-Smith 1999, 2008; Bell, 1997; Friere, 1970; Greene, 1998; Zeichner, 1993, 2005). It was hypothesized that teachers with a strong belief in teaching for social justice (i.e., a high score on the LTSJ-B scale) would have a very accepting and compassionate attitude toward homeless students (i.e., a high score on the TAHS scale).

_Construct Irrelevant Variance_

Construct irrelevant variance refers to unrelated sub-dimensions that are irrelevant to the focal construct and in fact not intentionally measured, but their inclusion in the measurement is inevitable (Messick, 1989). One such inevitable irrelevant dimension that posed a potential threat to the validity of inferences made from the TAHS scale was a respondent’s desire to represent himself or herself in a positive and socially desirable manner. As mentioned previously, a short social desirability scale was incorporated into the TAHS assessment to measure the extent of social desirability in the obtained responses. Respondents who showed high levels of social desirability, and thus construct irrelevant variance, were removed from all data analyses.
Another form of construct irrelevant variance can occur when items are interpreted differently by different groups. Not only is this type of variance troublesome for obtaining an accurate understanding of an item’s functioning, but it also has implications for estimates produced by the Rasch model as item invariance across multiple contexts is an assumption of the Rasch model (Bond & Fox, 2007). If left unaddressed items that are not interpreted similarly can lead to biased parameter estimates. Differential Item Functioning analyses were conducted to test the assumption that the items were interpreted similarly by teachers of different genders, and living in different regions. Specifically, teachers in the Northeast and the Southeast were compared, as these were the two most popular regions reported.

Although the next method was not used in this study, it may be possible to use the method of scaffolding sensitive items into a larger battery of less sensitive items to minimize the threat of construct irrelevant variance due to the sensitive nature of this construct. When a topic is of a sensitive nature, such as attitudes toward an extremely marginalized group, the burden of answering multiple items from this construct domain can be overwhelming, especially when these items are presented sequentially. The scaffolding method may ease the mind by allowing the respondent to shift their thinking to this less sensitive subject yet it may not compromise their responses. Although this technique was not employed during the data collection for this study, this technique could be utilized in future administrations of the TAHS assessment outside of this study. This technique was not used for this study because the respondents were already presented with a large number of TAHS and other items throughout the phases, and presenting additional items might have been too burdensome.
Secondary Research Questions

This study included two secondary research questions. The first pertained to the relationships among teachers’ contextual variables and their attitudes toward homeless students. The methods used to answer this research question included a multiple regression analysis, where attitude scores were regressed on a total of nine dummy-coded contextual variables, which were entered sequentially in blocks (Block 1: gender; Block 2: race; Block 3: years teaching; Block 4: experience with homeless students; Block 5: training on the needs of homeless students; Block 6: geographical region). The attitude scores used in the analysis were the Rasch Person Measure scores. Semipartial correlation coefficients were also obtained in the analysis.

The second secondary research question addressed teachers’ knowledge levels and their attitudes. This relationship was explored using a one-tailed correlation analysis, as it was hypothesized that a positive relationship would exist. Both raw total scores and Rasch person scores were used for Phase Two and Phase Three data.

Summary

This chapter introduced the procedures for recruitment of participants, as well as a description of their role; an overview of the item generation; the sections, scales, and subscales of the TAHS assessment; the statistical analyses employed; and the scale validation methods.

To summarize, participants were recruited for each of the three phases of this study from a nationally representative and geographically-diverse sample of teachers. A total of 6,000 teachers were recruited for participation throughout the study. Items for the TAHS scale were generated by various methods including selection from current instruments in their original or modified form or by the construction of new items to reflect important themes in the literature.
and the expertise of the expert committee. A total of 113 items resulted from these methods and were retained after the quality assurance pilot study and expert committee review. The TAHS assessment consists of four sections: an attitudes scale, a knowledge scale, a social desirability scale, and demographics. Four themes and nine dimensions comprise the attitude section, which is the core of the TAHS assessment. Both Classical Test Theory and Item-Response Theory statistical procedures were employed as part of the item analysis, including item difficulty, item discrimination, item-total correlations, scale reliability, and Rasch analysis.

As part of the validation of the TAHS scale validity evidence was collected using factor and correlational analyses. Validity evidence was collected in Phase Three of the study, using participants who responded to both the TAHS scale as well as a set of current instruments to investigate whether hypothesized relationships were observed and could be replicated. This study’s secondary research questions regarding the relationships among the contextual variables and teachers’ attitudes, as well as between teachers’ knowledge levels and their attitudes, were examined using correlational indices and/or regression analyses.
CHAPTER FOUR: RESULTS

As introduced in the last chapter there are three main phases of this study: Phase One—item development and pilot testing; Phase Two—data collection; and Phase Three—validation. This chapter includes an overview of the sample characteristics from each phase, and a presentation of the results of the scale development process (research question one), with the most emphasis on results from Phase Two. The results presented here include both Classical Test Theory and Item-Response Theory results. The chapter concludes with the results pertaining to research questions two and three.

Sample Description

Throughout the data collection process it was important to understand the qualitative nature of the samples and the extent to which the samples were representative of the construct in the larger population. When samples used in development processes are qualitatively alike and similar to the target population the observed patterns of association among the items will likely reflect attributes shared by the broader community and not unusual attributes shared among sample members (DeVellis, 2003). The next sub-sections describe the characteristics of the samples used within each of the phases of this study to provide an understanding of their qualitative nature.

Phase One

As mentioned in Chapter Three both a quality assurance group and a pilot group were used to aid in the item generation process of this study in Phase One. The quality assurance group’s primary role was to review the initial item pool of 176 items for language, clarity, conciseness, and overall quality. A total of 15 participants responded to one of five online surveys containing approximately 35 items from the larger pool of 176. The items were grouped into five small
subsets in order to ease the burden on the respondents. After providing their consent, respondents were instructed to respond to each item as if they were a public school teacher (as some participants were not yet teachers, but prospective teachers or graduate students in other areas of education). They were also instructed to comment on each item if it was confusing or if there was anything unusual about the item. The feedback received from this quality assurance group provided useful information on the items’ clarity, relevance, and application to assessing teachers’ attitudes toward homeless students.

The next phase of pilot testing involved a sample of 1,000 teachers from the listserv of teachers described in the previous chapter. Of the 1,000 teachers that were contacted via email 120 no longer had valid email addresses, which reduced the sample size to 880. A total of 67 (8%) of the 880 potential participants actually responded to the survey. Of these respondents two were considered invalid because they were not currently an elementary or secondary public school teacher, which reduced the final sample size to 65. In total, 58 (89%) out of the 65 valid respondents completed the entire survey. Responses were used in analyses where possible regardless of whether a respondent finished the survey.

Respondents were allotted 10 days to complete the survey, which began on May 19, 2011. Given that the survey occurred during a busy time of year for teachers and was available only for a short time, it is not surprising that the participation rate is low. Although the sample size is not ideal it was adequate for the purposes of this pilot study which was intended to gain an initial understanding of the functionality of the scale items. However, it is noted that the sample size is limited as many statistical procedures require a larger sample size to function properly given the large item pool and there is the potential that observed findings will not remain constant with a much larger sample size.
The majority of the Phase One sample is female (86%) and is mostly between the ages of 41-50 (29%), while a small percentage was aged 61 or older (7%). High school was the most frequent grade level taught among respondents, with 32 percent teaching at this level, followed by Middle (27%) and Elementary (20%). A substantial percentage of respondents selected Other and supplied in text their primary grade level taught. These responses included “grades 6-8”, “gifted”, “6-7”, “special education” and other similar responses.11

The sample primarily had between 6-10 years of teaching experience (28%), followed by 16-20 (19%) and 26 or more years (16%). There were relatively few beginning teachers (9% with 0-5 years’ experience). All respondents had completed at least a four year college degree, while 72 percent had earned a Master’s degree and nine percent a Doctoral degree. Most respondents earned in the range of $30,000-$39,999 annually (25%), followed by $40,000-$49,999 (23%), while 23 percent earned above $80,000.

Respondents were primarily from the Southeast (47%), the Northeast (29%) and the Midwest (16%). The majority was not of Hispanic ethnicity (98%) and most respondents were White (85%) or African American (10%). Protestant Christian was the predominant religious affiliation (43%) followed by Roman Catholic (17%). Ten percent specified Non-religious and 21 percent specified Other.12

The majority of respondents had not received in-service training on the needs of homeless children (72%); however the majority had experience teaching homeless students (79%). Table 4.1 provides the frequency and percentage of the number of homeless students taught. Of those respondents with experience teaching homeless students (n=46), most taught

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11 These responses indicated that slight modifications were needed to the response options for Phase Two and Three data collections to more accurately capture teachers’ grade levels. In these subsequent phases respondents were allowed to choose as many grades as applicable instead of a pre-grouped grade strand.
12 The Other text responses included seven percent Baptist and less than two percent for each of the following affiliations: Episcopalian, Latter Day Saints, Lutheran, Non-denominational Christian, and Quaker.
between 1-5 homeless students (39%), followed by 6-10 (22%) and 11-20 (22%). A small percentage reported teaching over 50 homeless students (9%).

<table>
<thead>
<tr>
<th>No.</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>6-10</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>11-20</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>21-30</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>31-50</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>51 or more</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

**Phase Two**

A total of 4,000 potential respondents were contacted via email for participation in Phase Two. Of this number 497 no longer had a valid email address or were no longer in a teaching position, which reduced the sample size to 3,503. A total of 426 of the potential respondents actually participated for a response rate of 12 percent. The overall response rate of 12 percent is not surprising given that the survey was administered during summer vacation and the beginning of the school year—the survey window began August 3rd and concluded September 10, 2011. Weekly reminders were sent to the potential participants during this survey window and prizes were offered for participation in an attempt to increase the response rate. Despite these efforts the response rate is less than ideal, yet the final sample size was representative and large enough for the proper functioning of the statistical procedures used to answer the research questions.

Of the 426 participants 354 (83%) completed the entire survey, however as in Phase One, responses were used in analyses where possible regardless of whether a respondent finished the
survey. Consent was obtained from all respondents. The sample size was reduced slightly further by excluding invalid cases. A respondent was considered invalid if they provided a high social desirability score (i.e., a score above eight) using Strahan and Gerbasi’s (1972) 10 item social desirability scale, or if they were not eligible for the study (i.e., were not a public school educator). Excluding these cases reduced the sample to a final size of 374 participants, which was used to generate the following sample characteristics and in the statistical analyses discussed later in this chapter.

The majority of the Phase Two sample is female (87%) and is mostly between the ages of 51-60 (31%). High school was the most frequent grade level taught among respondents, with 31 percent teaching at this level, followed by Middle (29%) and Elementary (24%). Only 10 percent of respondents selected Other, which included responses such as Art K-8, all-substitute, computers K-8, and similar responses.

The sample primarily had between 11-15 years of teaching experience (25%), followed by 6-10 (21%) and 26 or more years (20%). There were relatively few beginning teachers (6% with 0-5 years’ experience). Most respondents had completed at least a four year college degree (99%), while 64 percent had earned a Master’s degree and seven percent had some other type of degree, which ranged from Masters plus grad credits, BA/BS plus grad credits, or other types of certification (e.g., National Board Certification). Most respondents earned in the range of $40,000-$49,999 (27%), while 15 percent earned above $80,000.

Respondents were primarily from the Southeast (45%), the Northeast (40%) and the Midwest (10%). The majority was not of Hispanic ethnicity (97%) and most respondents were White (89%) or African American (8%). Protestant Christian was the predominant religious affiliation (44%) followed by Roman Catholic (27%). Thirteen percent specified Non-religious
and 13% specified Other, which consists of religions such as Baptist, Greek Orthodox, and non-denominational among others.

The majority of respondents had not received in-service training on the needs of homeless children (76%); however the majority had experience teaching homeless students (82%). Table 4.2 provides the frequency and percentage of the number of homeless students taught. Of those respondents with experience teaching homeless students (n=240), most taught between 1-5 homeless students (45%).

<table>
<thead>
<tr>
<th>No.</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>107</td>
<td>45</td>
</tr>
<tr>
<td>6-10</td>
<td>56</td>
<td>23</td>
</tr>
<tr>
<td>11-20</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td>21-30</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>31-50</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>51 or more</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>100</td>
</tr>
</tbody>
</table>

Phase Three

For the final phase of data collection the remaining 1,000 potential respondents, from the original list of 6,000 email addresses, were contacted for participation. Of the 1,000 potential respondents 131 no longer had a valid email address or were no longer in a teaching position, which reduced the sample size to 869. A total of 159 potential respondents actually participated for a response rate of 18 percent. Consent was obtained from all respondents. The survey window began November 30\textsuperscript{th} and concluded December 14, 2011. One reminder was sent to the participants and prizes were offered for participation.
Of the 159 respondents 28 were determined to be invalid, for the same reasons discussed above in Phase Two. This reduced the final sample size to 131, which was used to generate the following sample characteristics and in the statistical analyses discussed later in this chapter.

Like Phases One and Two, the majority of the Phase Three sample is female (82%) and is mostly between the ages of 51-60 (36%). High school was the most frequent grade level taught among respondents, with 33 percent teaching at this level, followed by Middle (26%) and Elementary (21%). Eleven percent of respondents selected Other, which included responses such as K-5 Librarian, K-5 Math Coach, Reading Specialist, and similar responses.

The sample primarily had between 11-15 years of teaching experience (23%), followed by 6-10 (22%) and 26 or more years (18%). There were relatively few beginning teachers (7% with 0-5 years’ experience). All but one respondent had completed at least a four year college degree, while 61 percent had earned a Master’s degree and eight percent had some other type of degree, which ranged from Masters plus additional hours (Rank 1), or other types of certification (e.g., National Board Certification). Most respondents earned in the range of $40,000-$49,999 (28%), while 15 percent earned above $80,000.

Respondents were primarily from the Southeast (50%), the Northeast (31%) and the Midwest (13%). The majority was not of Hispanic ethnicity (98%) and most respondents were White (91%) or African American (7%). Protestant Christian was the predominant religious affiliation (51%) followed by Roman Catholic (13%). Thirteen percent specified Other, which consisted of religions such as Baptist, Methodist or non-denominational Christian among others.

The majority of respondents had not received in-service training on the needs of homeless children (69%); however the majority had experience teaching homeless students (80%). Table 4.3 provides the frequency and percentage of the number of homeless students...
taught. Of those respondents with experience teaching homeless students (n=87), most taught between 1-5 homeless students (56%).

<table>
<thead>
<tr>
<th>No.</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>49</td>
<td>56</td>
</tr>
<tr>
<td>6-10</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>11-20</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>21-30</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>31-50</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>51 or more</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>100</td>
</tr>
</tbody>
</table>

Research Question One

The primary research question of this study was stated as:

*Can a set of underlying dimensions be identified and used to effectively measure teacher attitudes toward homeless students?*

As discussed in the last chapter, it was hypothesized that the underlying dimensions would represent affiliation, attribution (personal, societal), expectations, educational supports, tolerance, educational issues, living environments, and education environments. In addition, related to this research question included the development of an effective scale to measure teacher knowledge of the McKinney-Vento legislation and about homeless students. In order to create an effective measurement instrument and investigate this question a series of steps were taken and analyses were conducted.

The following sections present the results of these steps and analyses and address this research question by specifically referring to the three-fold meaning of the word “effectively”.
As mentioned previously, effectively in this context referred to the reliability of the overall scale and subscales, where a high reliability was desirable (e.g., Cronbach alpha ≥ .75); it also referred to the validity of inferences regarding teachers’ attitudes toward homeless students and not some other construct; and lastly, while achieving the first two points, this scale’s effectiveness depended on its efficiency where a small number of items was desired in order to decrease the burden on respondents.

The process in which the final attitude and knowledge scales were developed was iterative—initial item properties from the Phase Two data collection were reviewed using classical test theory and item response theory analyses. Many variations of the scales and subscales were analyzed to maximize the item and scale properties while maintaining item coverage across the range of respondent abilities. After selecting the final set of items the scales were factor analyzed in multiple ways in order to gauge the success of the scale development process. Lastly, responses from the final attitudes scale were correlated with responses to other, similar scales to assess the final TAHS scale’s construct and convergent validity.

The results to research question one are presented in the order in which the analyses were mostly conducted—classical test theory followed by item response theory—and focus primarily on the results from the Phase Two data collection. The most emphasis is given to Phase Two results because the purpose of this data collection was to refine the item pool in order to create the final scales. The same analyses were also conducted for Phase Three data and those results are interjected throughout the following sections, however less emphasis is placed on Phase Three as its primary purpose was for validation.

It is important to note that the Phase Three data collection included two additional items that were not included in the Phase Two data collection, and therefore the results presented do
not entirely reflect the same items. Two items (10kr and 113r) were added to the Personal Causation scale in Phase Three to measure attitudes toward substance abuse in homeless adults and parents, respectively. These two items replaced four separate items that measured attitudes toward drug and alcohol abuse in Phase Two. These four items were not included in final analyses of Phase 2 data because it was determined that they should be rewritten to promote efficiency into just two items for Phase Three. The reader should bear in mind that the comparisons between Phase Two and Phase Three are based upon nearly identical sets of items, aside from the two additional substance abuse items in Phase Three, which represents a total of 43 items for Phase Three and 41 items for Phase Two.

Classical Test Theory Analyses

The classical test theory analyses presented here include item difficulty, item discrimination, and reliability information. All of the items included on the TAHS scale use Likert-style response options. The attitude items have response options ranging from Strongly Disagree to Strongly Agree with a neutral category of Uncertain; most items are coded so that Strong Agree is the preferred and favorable response option. Responses are coded so that high scores indicate more positive, compassionate attitudes toward homeless students; low scores indicate more negative, prejudiced attitudes. A smaller set of items measure teachers’ knowledge regarding certain topics and therefore use a True-False response option, with the inclusion of an option for Uncertain. The scoring of these response options is presented in Table 4.4.
Table 4.4
Response Options of TAHS Items

<table>
<thead>
<tr>
<th>Response Option</th>
<th>Original Response Value</th>
<th>Recoded Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Uncertain</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>True</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>False</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Uncertain</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The response options are used to calculate item difficulties for polytomous items, which are calculated from the ratio of the item mean to its total possible item score, where \( p_i = \frac{\bar{x}}{\text{possible # points}} \). From a CTT perspective item difficulty—for the TAHS attitude items—refers to the proportion of respondents who strongly, positively endorsed an item. For the items measuring respondents’ knowledge, item difficulty is defined as the proportion of respondents who answered an item correctly. These interpretations of item difficulty are contradictory to its name, whereas an easy item to endorse actually has a higher item difficulty value. In order to maximize the total test score variance the preferred difficulty range for item difficulties is from .30 to .70. The observed item difficulties for the final scales are displayed in Table 4.5 and reflect separate analyses for each subscale, the attitudes scale overall, and the knowledge scale. The item statistics represent analyses for Phase Two data only. In total there are 41 attitude items and 7 knowledge items. Due to the listwise deletion option that was used to handle missing data,

\[13\] Note: The items measuring knowledge used the response options of True, False, or Uncertain. Both the options for False and Uncertain were recoded as incorrect in the calculation of the item difficulties, thus treating these items as dichotomous items.
the N associated with each analysis used to calculate the item statistics is not reported individually by subscale, but varied from a maximum of 365 to a minimum of 306 for the attitudes subscales. For the complete attitudes scale the N was 280 and it was 296 for the knowledge scale. Data were missing if a respondent did not respond to a particular item.
<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Mean</th>
<th>S.D.</th>
<th>Item Difficulty</th>
<th>Corrected Item-Total Correlation</th>
<th>Item Difficulty</th>
<th>Corrected Item-Total Correlation</th>
<th>Item Infit ZSTD</th>
<th>Item Infit ZSTD</th>
<th>Item Infit ZSTD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>analyzed by subscale</td>
<td>complete scale</td>
<td>analyzed by subscale</td>
<td>complete scale</td>
<td>analyzed by subscale</td>
<td>complete scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Affiliation (α=.54)</td>
<td>Affiliation</td>
<td>Affiliation</td>
<td>Affiliation</td>
<td>Affiliation</td>
<td>Affiliation</td>
</tr>
<tr>
<td>Q3</td>
<td>-I would feel comfortable eating a meal with a homeless person.</td>
<td>3.58</td>
<td>1.07</td>
<td>.72</td>
<td>.43</td>
<td>.31</td>
<td>.20</td>
<td>.72</td>
<td>.78</td>
<td>-3.2</td>
</tr>
<tr>
<td>Q2r</td>
<td>-I feel uneasy when I interact with homeless people, recoded.</td>
<td>3.78</td>
<td>1.02</td>
<td>.76</td>
<td>.22</td>
<td>.62</td>
<td>.24</td>
<td>.71</td>
<td>1.18</td>
<td>2.2</td>
</tr>
<tr>
<td>Q5</td>
<td>-I would feel comfortable working with homeless children and families.</td>
<td>3.81</td>
<td>1.26</td>
<td>.76</td>
<td>.42</td>
<td>.31</td>
<td>.25</td>
<td>.71</td>
<td>1.09</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>For the most part, the plight of a homeless student's family has to do with: - a lack of affordable housing.</td>
<td>3.68</td>
<td>.99</td>
<td>.74</td>
<td>.54</td>
<td>.74</td>
<td>.34</td>
<td>.71</td>
<td>1.08</td>
<td>0.90</td>
</tr>
<tr>
<td>Q9d</td>
<td>For the most part, the plight of a homeless student's family has to do with: - the foreclosure crisis.</td>
<td>3.68</td>
<td>.93</td>
<td>.74</td>
<td>.55</td>
<td>.73</td>
<td>.32</td>
<td>.71</td>
<td>0.98</td>
<td>-0.20</td>
</tr>
<tr>
<td>Q9e</td>
<td>For the most part, the plight of a homeless student's family has to do with: - difficulty earning a living wage.</td>
<td>4.09</td>
<td>.80</td>
<td>.82</td>
<td>.64</td>
<td>.68</td>
<td>.34</td>
<td>.71</td>
<td>0.98</td>
<td>-0.20</td>
</tr>
<tr>
<td>Q9c</td>
<td>For the most part, the plight of a homeless student's family has to do with: - unemployment.</td>
<td>4.23</td>
<td>.74</td>
<td>.85</td>
<td>.59</td>
<td>.71</td>
<td>.29</td>
<td>.71</td>
<td>1.06</td>
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</tr>
<tr>
<td></td>
<td>Attribution - Societal Causation (α=.77)</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Q9a</td>
<td>For the most part, the plight of a homeless student's family has to do with: - a lack of affordable housing.</td>
<td>3.68</td>
<td>.99</td>
<td>.74</td>
<td>.54</td>
<td>.74</td>
<td>.34</td>
<td>.71</td>
<td>1.08</td>
<td>0.90</td>
</tr>
<tr>
<td>Q9d</td>
<td>For the most part, the plight of a homeless student's family has to do with: - the foreclosure crisis.</td>
<td>3.68</td>
<td>.93</td>
<td>.74</td>
<td>.55</td>
<td>.73</td>
<td>.32</td>
<td>.71</td>
<td>0.98</td>
<td>-0.20</td>
</tr>
<tr>
<td>Q9e</td>
<td>For the most part, the plight of a homeless student's family has to do with: - difficulty earning a living wage.</td>
<td>4.09</td>
<td>.80</td>
<td>.82</td>
<td>.64</td>
<td>.68</td>
<td>.34</td>
<td>.71</td>
<td>0.98</td>
<td>-0.20</td>
</tr>
<tr>
<td>Q9c</td>
<td>For the most part, the plight of a homeless student's family has to do with: - unemployment.</td>
<td>4.23</td>
<td>.74</td>
<td>.85</td>
<td>.59</td>
<td>.71</td>
<td>.29</td>
<td>.71</td>
<td>1.06</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>Attribution - Personal Causation (α=.81)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q110r</td>
<td>Parents in a homeless family are homeless because they: - are poorly educated, recoded.</td>
<td>2.83</td>
<td>1.02</td>
<td>.57</td>
<td>.68</td>
<td>.74</td>
<td>.15</td>
<td>.72</td>
<td>.93</td>
<td>-1.00</td>
</tr>
<tr>
<td>Q10jr</td>
<td>Homeless people, such as single adults, are homeless because they: - are poorly educated, recoded.</td>
<td>2.88</td>
<td>1.02</td>
<td>.58</td>
<td>.63</td>
<td>.77</td>
<td>.16</td>
<td>.72</td>
<td>1.10</td>
<td>1.30</td>
</tr>
<tr>
<td>Q10dr</td>
<td>Homeless people, such as single adults, are homeless because they: - have a substance abuse problem, recoded.</td>
<td>2.98</td>
<td>.94</td>
<td>.60</td>
<td>.63</td>
<td>.77</td>
<td>.15</td>
<td>.72</td>
<td>.97</td>
<td>-4.0</td>
</tr>
<tr>
<td>Q110r</td>
<td>Parents in a homeless family are homeless because they: - are mentally ill, recoded.</td>
<td>3.15</td>
<td>.90</td>
<td>.63</td>
<td>.60</td>
<td>.78</td>
<td>.12</td>
<td>.72</td>
<td>.99</td>
<td>-1.0</td>
</tr>
<tr>
<td>Q113r</td>
<td>Parents in a homeless family are homeless because they: - have a substance abuse problem, recoded.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Q110r</td>
<td>Parents in a homeless family are homeless because they: - have a substance abuse problem, recoded.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Table 4.5  
*Item Statistics by Attitudes Subscale and Complete Scale, and Knowledge Scale (continued)*

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Mean</th>
<th>S.D.</th>
<th>Item Difficulty</th>
<th>Corrected Item Total Correlation</th>
<th>α if Item Deleted</th>
<th>Corrected Item Total Correlation</th>
<th>α if Item Deleted</th>
<th>Item Infit</th>
<th>Item Infit</th>
<th>Item Infit</th>
<th>Item Infit</th>
<th>Item Infit</th>
<th>MNSQ</th>
<th>ZSTD</th>
<th>MNSQ</th>
<th>ZSTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q18</td>
<td>Students who are homeless at a young age have a good chance at graduating from high school. Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>2.68</td>
<td>.94</td>
<td>.54</td>
<td>.31</td>
<td>.74</td>
<td>.02</td>
<td>.73</td>
<td>1.23</td>
<td>3.00</td>
<td>.99</td>
<td>-1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19r</td>
<td>Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. In general, homeless students are slower to improve their behavior than other students, recoded.</td>
<td>2.76</td>
<td>.88</td>
<td>.55</td>
<td>.33</td>
<td>.74</td>
<td>.12</td>
<td>.72</td>
<td>1.08</td>
<td>1.10</td>
<td>.87</td>
<td>-2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20a</td>
<td>Students who are homeless in the classroom, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>3.57</td>
<td>.97</td>
<td>.71</td>
<td>.51</td>
<td>.70</td>
<td>.19</td>
<td>.72</td>
<td>1.15</td>
<td>1.90</td>
<td>.91</td>
<td>-1.6</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q20dr</td>
<td>Students who are homeless in the classroom, recoded. In general, homeless students have the ability to do well on standardized tests. In general, homeless students are slower to improve their behavior than other students, recoded.</td>
<td>3.53</td>
<td>.85</td>
<td>.71</td>
<td>.58</td>
<td>.69</td>
<td>.22</td>
<td>.71</td>
<td>.76</td>
<td>-3.40</td>
<td>1.14</td>
<td>2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20cr</td>
<td>Students who are homeless at a young age have a good chance at graduating from high school. Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>3.63</td>
<td>.79</td>
<td>.73</td>
<td>.57</td>
<td>.69</td>
<td>.30</td>
<td>.71</td>
<td>.72</td>
<td>-3.90</td>
<td>.71</td>
<td>-4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20fr</td>
<td>Students who are homeless at a young age have a good chance at graduating from high school. Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>3.76</td>
<td>.69</td>
<td>.75</td>
<td>.38</td>
<td>.73</td>
<td>.18</td>
<td>.72</td>
<td>.89</td>
<td>-1.40</td>
<td>.88</td>
<td>-1.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20b</td>
<td>Students who are homeless at a young age have a good chance at graduating from high school. Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>3.84</td>
<td>.79</td>
<td>.77</td>
<td>.51</td>
<td>.70</td>
<td>.19</td>
<td>.72</td>
<td>.94</td>
<td>-0.70</td>
<td>1.05</td>
<td>.8</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q20hr</td>
<td>Students who are homeless at a young age have a good chance at graduating from high school. Students who become homeless in high school are unlikely to graduate, recoded. In general, homeless students have the ability to do well on standardized tests. Students who are homeless in high school can perform well academically.</td>
<td>4.05</td>
<td>.72</td>
<td>.81</td>
<td>.33</td>
<td>.73</td>
<td>.22</td>
<td>.72</td>
<td>1.20</td>
<td>2.10</td>
<td>.88</td>
<td>-1.4</td>
<td></td>
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</tr>
</tbody>
</table>

**Expectations (α=.74)**

**Supports (α=.65)**
Table 4.5  
*Item Statistics by Attitudes Subscale and Complete Scale, and Knowledge Scale (continued)*

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Mean</th>
<th>S.D.</th>
<th>Item Difficulty</th>
<th>Item-Total Correlation</th>
<th>Corrected Item-Total Correlation</th>
<th>α if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>α if Item Deleted</th>
<th>Item Infit</th>
<th>Item MNSQ</th>
<th>Item ZSTD</th>
<th>Item MNSQ</th>
<th>Item ZSTD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Characteristics (α=.88)</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>I would be able to identify a homeless student in my class by:</td>
<td>2.73</td>
<td>.87</td>
<td>.55</td>
<td>.58</td>
<td>.88</td>
<td>.07</td>
<td>.72</td>
<td>1.20</td>
<td>2.40</td>
<td>.91</td>
<td>-1.6</td>
<td></td>
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<tr>
<td></td>
<td>behavioral problems.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>I would be able to identify a homeless student in my class by:</td>
<td>3.00</td>
<td>.93</td>
<td>.60</td>
<td>.67</td>
<td>.86</td>
<td>.19</td>
<td>.72</td>
<td>1.13</td>
<td>1.50</td>
<td>1.29</td>
<td>3.0</td>
<td></td>
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<tr>
<td></td>
<td>poor hygiene.</td>
<td></td>
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<tr>
<td></td>
<td>I would be able to identify a homeless student in my class by:</td>
<td>3.03</td>
<td>.94</td>
<td>.61</td>
<td>.77</td>
<td>.83</td>
<td>.21</td>
<td>.72</td>
<td>.81</td>
<td>-2.40</td>
<td>.87</td>
<td>-2.2</td>
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<tr>
<td></td>
<td>incomplete homework assignments.</td>
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</tr>
<tr>
<td></td>
<td>I would be able to identify a homeless student in my class by:</td>
<td>3.15</td>
<td>.94</td>
<td>.63</td>
<td>.82</td>
<td>.82</td>
<td>.28</td>
<td>.71</td>
<td>.66</td>
<td>-4.40</td>
<td>1.29</td>
<td>3.0</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>trouble staying awake in class.</td>
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</tr>
<tr>
<td></td>
<td>I would be able to identify a homeless student in my class by:</td>
<td>3.49</td>
<td>.94</td>
<td>.70</td>
<td>.69</td>
<td>.85</td>
<td>.28</td>
<td>.71</td>
<td>1.13</td>
<td>1.40</td>
<td>.87</td>
<td>-2.2</td>
<td></td>
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<tr>
<td></td>
<td>hunger.</td>
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</tr>
<tr>
<td></td>
<td><strong>Education Issues (α=.72)</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-negative attitudes from teachers.</td>
<td>3.06</td>
<td>1.08</td>
<td>.61</td>
<td>.61</td>
<td>.62</td>
<td>.19</td>
<td>.72</td>
<td>.80</td>
<td>-2.80</td>
<td>1.16</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-lack of sensitivity from school staff.</td>
<td>3.18</td>
<td>1.06</td>
<td>.64</td>
<td>.64</td>
<td>.61</td>
<td>.26</td>
<td>.71</td>
<td>.74</td>
<td>-3.80</td>
<td>.93</td>
<td>-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-lack of evaluations for special education programs and other services.</td>
<td>3.37</td>
<td>1.06</td>
<td>.67</td>
<td>.51</td>
<td>.66</td>
<td>.22</td>
<td>.71</td>
<td>1.02</td>
<td>.20</td>
<td>1.15</td>
<td>2.2</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-poor health.</td>
<td>3.78</td>
<td>.78</td>
<td>.76</td>
<td>.40</td>
<td>.69</td>
<td>.30</td>
<td>.71</td>
<td>.94</td>
<td>-.70</td>
<td>.95</td>
<td>-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-transportation.</td>
<td>3.96</td>
<td>.77</td>
<td>.79</td>
<td>.26</td>
<td>.72</td>
<td>.20</td>
<td>.72</td>
<td>1.20</td>
<td>2.00</td>
<td>.77</td>
<td>-3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barriers that homeless students face in education include:-lack of documents required for enrollment (e.g., previous school records).</td>
<td>4.02</td>
<td>.71</td>
<td>.80</td>
<td>.26</td>
<td>.72</td>
<td>.28</td>
<td>.71</td>
<td>1.13</td>
<td>1.30</td>
<td>1.29</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Living Environments (α=.75)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q44</td>
<td>A homeless shelter or other temporary residence is not conducive to the educational needs of a homeless student.</td>
<td>3.03</td>
<td>.95</td>
<td>.61</td>
<td>.46</td>
<td>.84</td>
<td>.05</td>
<td>.72</td>
<td>1.57</td>
<td>4.90</td>
<td>.98</td>
<td>-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q45b</td>
<td>A lack of permanent housing for homeless students:puts them at risk of academic failure.</td>
<td>3.74</td>
<td>.81</td>
<td>.75</td>
<td>.65</td>
<td>.59</td>
<td>.14</td>
<td>.72</td>
<td>.91</td>
<td>-.80</td>
<td>1.16</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q45a</td>
<td>A lack of permanent housing for homeless students:puts them at an educational disadvantage.</td>
<td>3.79</td>
<td>.74</td>
<td>.76</td>
<td>.67</td>
<td>.59</td>
<td>.15</td>
<td>.72</td>
<td>.84</td>
<td>-1.60</td>
<td>.93</td>
<td>-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item #</td>
<td>Item</td>
<td>Mean</td>
<td>S.D.</td>
<td>Item Difficulty</td>
<td>Item #</td>
<td>Item</td>
<td>Mean</td>
<td>S.D.</td>
<td>Item Difficulty</td>
<td></td>
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</tr>
<tr>
<td>Q51</td>
<td>Homeless students come from mostly single-parent families. Children are considered homeless if they live-with parents and other relatives because of financial hardship.</td>
<td>.84</td>
<td>.82</td>
<td>.42</td>
<td>Q60e</td>
<td>Children are considered homeless if they live-with parents and other relatives because of financial hardship.</td>
<td>.92</td>
<td>.86</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q55</td>
<td>Public schools are legally mandated to enroll every student even if the student is not able to produce records required for enrollment, (e.g. immunization records).</td>
<td>1.28</td>
<td>.74</td>
<td>.64</td>
<td>Q54</td>
<td>Students living in “doubled up” situations, where they reside in another individual/family’s home due to financial hardship, are legally considered homeless.</td>
<td>1.30</td>
<td>.76</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q59</td>
<td>Local Education Agencies (i.e. school districts) are required to have a local homeless liaison to help with the enrollment and success of homeless students in school.</td>
<td>1.46</td>
<td>.61</td>
<td>.73</td>
<td>Q58</td>
<td>Homeless students have the right to attend school, no matter where they live or how long they have lived there.</td>
<td>1.77</td>
<td>.53</td>
<td>.89</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

As seen by the item difficulty levels in Table 4.5, most of the attitudinal items (59%) were very easy to endorse positively (i.e., Strongly Agree), as indicated by the high item difficulties exceeding the .70 criteria. Forty-one percent of the items fell within the preferred difficulty range. For Phase Three there was a slight improvement: only 53 percent of the items exceeded the .70 criteria and 47 percent were within the preferred range. Of the seven items measuring knowledge, 71 percent of the items fell within the preferred range, while 29 percent...
exceeded the .70 criteria for both Phases 2 and 3. These results suggest that most of the attitudinal items and a small percentage of the knowledge items were relatively easy to positively endorse or answer correctly.

Additional item information presented in Table 4.5 includes the item mean and standard deviation. The item means and standard deviations allow for useful interpretations of the items. By interpreting the item means it is possible to tell whether the respondents’ generally provided positive or negative endorsements, while the standard deviations provide an indication of the variability of the observed responses. For both Phase Two and Phase Three the majority of the item means indicate that the respondents generally provided positive endorsements (i.e., Strongly Agree) with a range of variability averaging close to one score point (average standard deviation was .89, calculated separately for Phase Two and Phase Three).

The Corrected Item-Total Correlation values in Table 4.5 provide an indication of how well an item discriminated between high-scoring and low-scoring respondents. These values were calculated using the Pearson Product Moment Correlation. Like the item difficulty, the preferred range for item-total correlation values is between .30 and .70. Negative values indicate an item that is functioning poorly, where high-scoring respondents obtained a low score.

As seen in Table 4.5, for the subscale statistics most attitude items had discrimination values falling within the desired range (83%), while some were below (12%) and a small percentage were above (5%). For Phase Three a smaller percentage of items fell within the preferred range (72%); 12 percent had discrimination values below .3 and a larger percentage (16%) had values above the upper criterion. When these statistics are calculated for the entire attitudes scale as a whole these percentages differ for both Phase Two and Phase Three. For Phase Two only 17 percent fell within the desired range; the remaining 83 percent had
discrimination values below .3, yet most were above .1, indicating that the majority of these items can be considered fair. For Phase Three the results were slightly better: 28 percent of the items fell within the desired range; while 72 percent fell below .3, and of those, the majority of the discrimination values were above .1.

For the knowledge items 43 percent were within the preferred range for item discrimination, while 57 percent were below the preferred range. In fact, one of these knowledge items (Question 51) below the .3 criterion showed negative discrimination, indicated by its negative value. This item was somewhat problematic because many high-scoring respondents, earning high knowledge scores, responded to this item in an incorrect manner. This item was also a very difficult item and would have improved the reliability of the knowledge scale upon its deletion. However, this item was retained for the purpose of assessing respondents’ knowledge over time, where it is hypothesized that a respondent knowing little about homeless students would incorrectly respond that homeless students do not come mostly from single parent families, when this statement is actually true. The results from Phase Three are similar to those from Phase Two: 43 percent of the items fell within the desired range, yet none of the items showed negative discrimination.

In Table 4.5 the items are arranged according to their final subscales. The reliability coefficients for each of the eight attitude subscales ranged from $\alpha = .54$ to $.88$, and the knowledge scale was $\alpha = .60$. These alpha coefficients represent moderate to moderately-strong internal consistency, which indicate that the true variation among the each latent variable is moderately high, while the error, or unshared variation is low. The results from Phase Three differ slightly—the reliability coefficients ranged from $\alpha = .45$ to $.90$, with the Affiliation subscale showing the lowest reliability of the eight subscales, which is similar to the Phase Two
result. The Attribution: Personal Causation subscale had a higher reliability in Phase Two than in Phase Three ($\alpha = .81$ compared to $\alpha = .90$), which is likely attributed to the addition of the two substance abuse items that were not included in Phase Two. The Knowledge scale in Phase Three had a slightly lower reliability ($\alpha = .57$) than in Phase Two.

Table 4.5 also includes the value of Cronbach’s Alpha if Item Deleted, which represents the scale’s reliability coefficient for internal consistency if the individual item were removed from the scale. Across all of the attitude subscales for Phase Two only three items (7%) showed that their removal would increase the alpha level of their respective subscale; when analyzed as a complete scale only one item showed that its removal would increase alpha. For Phase Three the reliability could have been improved if five items (12%) were removed across all subscales, and when analyzed as a complete scale three items (7%) showed that their deletion would improve the reliability coefficient. For the knowledge scale, only one item—the problematic item #Q51 discussed above—would also have increased the alpha level if removed for Phase Two; whereas three items would have improved the alpha level for Phase Three. These results indicate that overall, most items positively contributed to the reliability of each scale for each data collection.

Although not displayed in Table 4.5, the reliability of the overall attitudes scale was moderately-strong ($\alpha = .72$) for Phase Two, and in Phase Three it was $\alpha = .71$. These reliability coefficients are only slightly below the desired coefficient set forth in the first research question. Overall these results suggest that the attitude scale can measure teachers’ attitudes toward homeless students with a moderately-strong degree of reliability.

Also excluded from Table 4.5 are four items that were identified as easily flagging respondents whom might have had a negative attitude toward homeless students. These items, displayed in Table 4.6, were originally part of the attitude subscales, but were separated from
these subscales due to their poor item properties (i.e., high item difficulty, misfit on the IRT analyses). However, these four items were deemed as very important items that could be used to provide a strong indication of whether a respondent had a negative attitude toward homeless children and were therefore retained in the instrument as “flag” items.

Table 4.6
Flag Items

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6r</td>
<td>I do not want to work with homeless students, recoded.</td>
</tr>
<tr>
<td>Q30fr</td>
<td>If I suspect a child is homeless I would contact: no one, recoded</td>
</tr>
<tr>
<td>Q36b</td>
<td>Homeless students’ needs include: teachers who are sensitive to their situation.</td>
</tr>
<tr>
<td>Q49</td>
<td>It is important that schools are a nurturing environment for homeless students.</td>
</tr>
</tbody>
</table>

The purpose of including these “flag” items is to allow the respondent’s answer to these items to identify important aspects of his or her attitude toward homeless students not captured elsewhere on the assessment. The respondent or the respondent’s supervisor can pay particular attention to how these items were answered, especially if answered in a negative manner. For example, the response *strongly agree* to Question 6r could be very useful for a principal to know about a teacher. For the majority of respondents these items were very easy and showed poor item statistics, therefore they were not included in CTT analyses, IRT analyses, or calculation of total scores.

Also excluded from the display in Table 4.5 are the items theorized to represent the education environments subscale. The original subscale had four items, none of which functioned well in the CTT or IRT analyses. Related items that were originally part of other scales were added to the original four items to create variations of the subscale. However, not
only did those items not function well, but as a whole the subscale did not have strong properties, nor was it efficient. Therefore it was determined that the topic of education environments would no longer be part of the TAHS scale and these items were not used in Phase Three. The exclusion of this subscale does not jeopardize the measurement of teacher’s attitudes in this context given that two out of the original four items measured an aspect of education environments that is no longer applicable in the vast majority of educational settings—separate schools for the homeless. These schools are no longer allowed under federal law and therefore this topic is not necessarily a worthy area of measurement for this assessment.

*Item Response Theory Analyses*

The second major measurement approach used in this study is within the IRT family of models. The specific IRT models used to analyze the results were the Rasch rating scale model (for the attitude subscales) and the partial credit model (for the knowledge scale). As described in the previous chapter, the Rasch family of IRT models played a special role in understanding the construct. These models were useful as a confirmatory test of the extent to which scales were successfully developed according to explicit *a priori* measurement criteria. They specifically were used to examine the extent to which the scales measured one, and only one, attribute at a time on a hierarchical line of inquiry.

One of the first steps taken to investigate the success of the scale development process from a Rasch perspective was to analyze the extent to which the results were consistent with the instrument developer’s intentions, as emphasized by Wright and Stone (1979). To accomplish this task the observed item difficulties for each item (analyzed separately for both the Phase Two and Phase Three data collections) were used to rank order the items. This task was actually accomplished in two ways to ensure that the ranking process was accurate—first by ordering by
the simple item difficulty calculated as described in the previous section, and second by using the Rasch item difficulties. The results from each ordering were complementary, which provided confirmation that the two separate processes were accurate. The observed rankings were then compared to the theorized rankings, (which were posed \textit{a priori}), using Spearman’s Rank Order Correlation. This calculation was done three times for each of the attitudes subscales and the knowledge scale. The first analysis used all of the items included in Phase Two—that is, before any items were identified for removal. The second analysis included only the final items in Phase Two, while the third analysis used the items from Phase Three (not including the two substance abuse items since they were not written until after the theoretical orderings were completed). Throughout all three of these analyses the personal causation items were analyzed as two separate groups (those that referred to the homeless in general and those that referred to parents in a homeless family), because their theorized orderings were more logical when separated. The education environments scale was not included in these analyses as it was not one of the final sub-scales.

For the first analysis, using all items from Phase Two, the correlations between the theorized and observed rankings ranged from $r = .15$ to $r = .88$ for the attitudes subscales, except for two subscales which had negative correlations (Personal Causation: Homeless People: $r = -.01$; Living Environments: $r = -.20$). These negative correlations represent a discrepancy between the theorized ordering of items and the observed orderings, yet for the Living Environments subscale the negative correlation was the result of a large discrepancy between the theorized and observed ordering for only one item. Despite those negative correlations, the majority of correlations where moderate (7 out of 10 were $> r = .57$), while the correlation for the knowledge
scale was high at \( r = .79 \). Overall this suggests that the observed item orderings mostly confirmed the theoretical item orderings.

For the second analysis, using just the final items and the Phase Two data, the correlations between the rankings were quite varied, ranging from \( r = .07 \) to 1.0, except for a few subscales that had negative correlations. The subscale for Personal Causation, as mentioned previously, was analyzed separately for homeless adults and for homeless families. For both of these subscales the correlations were \( r = -1.0 \), but the analyses were only based upon two items within each subscale, which made the correlation highly influenced by each item’s exact rank. The process in which the items were ranked according to theory was not meant to be precise, but rather to provide a general idea of where the item should rank, therefore it is not surprising that these correlations were low and negative, especially since they were based upon only two items. The subscale for Living Environments had a negative correlation of \( r = -.5 \), and was based upon only three items, only one of which was largely discrepant.

The third analysis, which used the final scale items for Phase Three had nearly identical results to the second analysis, except for two subscales (Personal Causation: Homeless Adults and the Knowledge scale). For the Personal Causation: Homeless Adults subscale \( r = 1.0 \), but in the second analysis it was \( r = -1.0 \); for the Knowledge scale in this analysis \( r = .07 \), and in the second analysis it was \( r = .14 \). The difference between the two analyses on the Knowledge scale represents differences in rankings for two items, which may reflect that respondents in the two phases had differing levels of knowledge about homeless students.

After the items were rank ordered by their difficulty in Phase Two they were reviewed to ensure that the observed ordering did indeed represent a logical and hierarchical ordering in terms of the construct definition. Overall the obtained item locations conformed to a reasonable
hierarchical ordering. That is, items that were expected to be easily endorsed by respondents had item locations indicative of an easy item to endorse, while more difficult or contentious items yielded locations indicative of a difficult item to endorse. Upon review it was determined that the observed orderings that were discrepant from the theorized orderings were in fact reasonable. The cause of the discrepancy was likely due to the author’s personal bias when creating the theorized rankings. For example, item Q30a, which reads, “If I suspect a child is homeless I would contact their parent(s).” This item was theorized to be quite easy to agree with and its observed location indicated that it was actually a difficult item to agree with. However, it is acknowledged that this author may have a naive view of how teachers would react in this situation without having that experience.

Overall, across both Phase Two and Phase Three, the observed item orderings from each of the attitude subscales and the knowledge scale represented a logical hierarchy that ranged from items easy to endorse (or answer correctly) to those that were difficult to endorse positively (or answer correctly). This result indicates that it required more of the construct to progress across the items, where those at the high end had more of a positive attitude toward homeless students and those at the lower end had less of a positive attitude, or a negative attitude. This satisfies one of the three main criteria of Rasch measurement—the hierarchical ordering of items—and is evidenced in the following variable maps.

One of the most useful products of a Rasch analysis is the variable map (also called a Wright Map). A variable map includes several key features including a central line marked out in logits typically ranging from -4 to +4, which determine the relationship of the construct to the probability of response. The left-hand side of the map includes the locations of the respondents (indicated by a “#” or a “.”), while the right-hand side are the item locations (i.e., difficulties) on
the logit scale. The following figures provide the variable maps for the Phase Two results. Figures 4.1 and 4.2 represent the final attitudes scale, as a whole, and Figures 4.3 and 4.4 represent the knowledge scale. Although the item orderings and variables maps were reviewed for the individual attitude subscales they are not presented here as the research question emphasizes the overall attitudes scale. Figures 4.1 and 4.3 present the person and item locations in general, while Figures 4.2 and 4.4 are the cumulative probability maps, which present the same information as the variable maps, but are separated by threshold categories. The threshold represents the location on the latent variable at which the probability of being observed below a given category is equal to that of being observed in or above that category (Linacre, 1998).
The reader should refer to Table 4.5 in the Appendix for the actual item text corresponding to each item.
Figure 4.2. Attitudes Scale Cumulative Probability Map, by Rasch-Thurstone Thresholds
Figure 4.2. Attitudes Scale Variable Map, by Rasch-Thurstone Thresholds (continued)

\[
\begin{align*}
Q37C &.4 & Q45A &.4 & Q45B &.4 & Q5 &.4 \\
Q37E &.3 & Q20B &.4 & Q28 &.4 \\
Q34D &.3 & Q37A &.4 & Q37I &.4 \\
Q20A &.3 & Q20HR &.4 & Q20CR &.3 & Q27 &.4 \\
Q3 &.3 & Q30E &.4 \\
Q20FR &.3 & Q23 &.4 \\
Q21 &.3 & Q30B &.4 & Q45B &.3 & Q9E &.4 \\
Q9A &.3 & Q9D &.3 \\
Q20B &.3 & Q28 &.3 & Q37C &.3 & Q45A &.3 & Q5 &.3 \\
Q20HR &.3 & Q9C &.4 & Q37I &.3 \\
-1 &. + & Q22 &.3 & Q30E &.3 & Q37A &.3 \\
Q18 &.2 & Q20HR &.3 & Q19R &.2 & Q27 &.3 & Q35E &.2 & Q9E &.3 \\
Q18R &.2 & Q3 &.3 \\
Q10R &.2 & Q30B &.3 \\
Q10DR &.2 & Q9C &.3 \\
Q30A &.2 & Q35A &.2 & Q35C &.2 & Q37G &.2 & Q4 &.2 \\
Q104R &.2 & Q35B &.2 & Q37F &.2 \\
-2 &. + & Q20DR &.2 & Q35D &.2 \\
Q20A &.2 & Q20CR &.2 & Q21 &.2 & Q3 &.2 & Q9D &.2 \\
Q20FR &.2 & Q37C &.2 & Q45B &.2 & Q9A &.2 \\
Q20B &.2 & Q28 &.2 & Q45A &.2 & Q5 &.2 \\
Q28 &.2 & Q37I &.2 \\
Q22 &.2 & Q30E &.2 & Q37A &.2 \\
Q20HR &.2 & Q27 &.2 & Q9E &.2 \\
-3 &. + & Q23 &.2 & Q30B &.2 & Q9C &.2 \\
-4 &. + & & & & & & &
\end{align*}
\]

*Each "#" is 6, each "." is 1 to 5*
Figure 4.3. Knowledge Scale Variable Map

PERSON - MAP - ITEM

<knowledgeable>|<difficult>

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    |
    |
    | ignorant>|<easy>

EACH "#" IS 3. EACH "." IS 1 TO 2
Figure 4.4. Knowledge Scale Cumulative Probability Map, by Rasch-Thurstone Thresholds

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<knowledgeable>|<difficult>

3  .####  +
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   .####  T|
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2  +
   #
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   |

1 #
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   |

0 #
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   |

-1 #
   |
   |
   .

-2 #
   |
   |
   |

-3 #
   |

<ignorant>;<easy>
```

Each "#" is 4. Each "." is 1 to 3
Overall the results of the variable maps indicate that the item locations were lower than the person locations. This indicates that the respondents were more positive than the items, or in other words, that the items were generally easy to positively endorse or get correct, which was also evidenced in Table 4.5 by the item difficulty values. However, when examining the cumulative probability maps (Figures 4.2 and 4.4) the distribution of the item locations generally extended along the continuum of person locations. This spread of item locations is desirable as it allows for differentiation among respondents through the use of multiple response categories, where the response option of five (for the attitudes items) and two (for the knowledge items) were generally the most difficult to positively endorse or get correct.

The variable maps were reviewed throughout the iterative process between the CTT analyses and IRT analyses. Specifically, when an item was being considered for removal from a subscale or scale the variable maps were consulted to assess how that change would affect the measurement of the construct at that specific location. In scale development it is preferable to include a range of items that discriminate across the range of person scores. Therefore, if an item showed less than ideal properties, in terms of its contribution to the reliability coefficient of the scale or its fit, but was the only, or one of the only, item or items that could be used to discriminate at a specific person score then in many cases that item was retained. An example of one such item is the item previously discussed—Question 51, which reads “Homeless students come from mostly single-parent families.” Not only is this item useful for measuring changes in a teacher’s knowledge over time, but it also can help to discriminate teachers who are somewhat knowledgeable about homeless students and their families to those who are quite knowledgeable.

The next set of analyses address another Rasch measurement principle—the important criterion of unidimensionality. One of the ways that this criterion can be assessed empirically is
by using fit indices. The fit indices for the Phase Two attitude subscales, the complete attitude scale, and the knowledge scale are displayed in Table 4.5. Infit mean square statistics and standardized residuals are displayed for each item. Infit is a measure of how well the data fit the model where a high infit statistic suggests that there is misfit in the model. Misfit can occur when a large number of unexpected responses have occurred, such as persons with negative attitudes who strongly, positively endorse an item or vice-versa.

A review of the item statistics for misfit revealed that nearly all items had infit statistics within the ideal values of .5 and 1.5 for infit mean squares; only two items (Q44 and Q5) had infit statistics greater than 1.5 across the subscales and overall attitudes scale. These results suggest that the data fit the Rasch rating scale model well, which supports the notion that this scale measures a unidimensional construct. A review of the standardized mean square fits associated with the infit showed that 14 items (34%) across the subscales and 23 items (56%) on the overall attitudes scale had standardized fit statistics outside the preferred range of ±2. Standardized fit statistics (ZSTD) are another way of investigating how well the data fit the model, where the expected value of ZSTD is zero; therefore this result upholds that the data fit the model well, but not perfectly. On the knowledge scale all but one item had infit mean squares within the preferred range, yet four out of the seven had standardized fit statistics that were outside of the preferred range. The Phase Three results were similar: when analyzed as a complete scale only one item had an infit value greater than 1.5 (Q5) and eight items (19%) had standardized fit statistics ±2.

The fit statistics were consulted throughout the item reduction process in Phase Two. Items that had fit statistics outside of the preferred range for mean square values were excluded from the final scales, unless there was a strong need to retain a poor fitting item. Items with less
than ideal fit were only retained if there was a theoretical reason for its inclusion, or if it could meet another purpose, such as discriminate at the high end of the construct or help show change in a respondent’s attitude over time. As mentioned throughout this chapter, the item reduction process was iterative and item decisions were not made solely using item fit indices, but rather involved reviewing reliability and other CTT information in conjunction with fit information.

Rasch analyses also provide person fit statistics. When analyzing the attitudes scale for person misfit it was found that the majority of respondents had person fit statistics within the preferred range, however seven percent of respondents had high (>2) infit mean square statistics; seven percent were moderately high (<2.0 to >1.5); and 11 percent were low (<.5). For Phase Three the results were quite similar: six percent were high (>2); eight percent were moderately high (<2.0 to >1.5); and 10 percent were low (<.5).

Those respondents with high infit values suggest that they were contributing more noise than useful information, which can degrade measurement. Those with moderately high values had noticeable off-variable noise, but which neither constructs nor degrades measurement. Those with low values were overly predictable, which could lead to the inaccurate conclusion that the measurement is better than it truly is (Linacre, 2002). Rather than removing the misfitting persons from the analyses they were retained as a review of their responses did not reveal any patterns that could explain their poor fit. Additionally, cases were already removed prior to these analyses for respondents with high social desirability scores; therefore it is possible that these respondents provided their true attitudes, which was useful in the creation of the final attitudes and knowledge scale.

The last major set of information that was consulted from the IRT analyses for Phase Two data was information provided by the Category Characteristic Curves (CCCs). These curves
show the model-based probability of observing each category of the response structure at each point on the latent variable (relative to the item difficulty). In other words, they show the probability of a given response category for any person on any item. They also help visualize whether the response category orderings are ordinal or disordinal, where an ordinal ordering is preferred. An ideal ordinal pattern would show that the threshold estimates (i.e., the points where the lines intersect) would increase in ascending order for each response category. Figures 4.5 and 4.6 show the CCCs for the TAHS scale from Phase Two—Figure 4.5 includes the actual response category numbers on the curves while Figure 4.6 includes lines representing each of the response categories.

Figure 4.5. Detailed Category Characteristic Curve for TAHS scale, Phase Two
Both figures show the desired ordinal ordering except for the response category of uncertain, which is below the response categories for agree and disagree. The corresponding threshold estimates were: -1.96, .07, -.23, 2.12, which represent the intersections between the response categories. This indicates that the category of uncertain was not the expected response for any level of person-by-item interaction. This suggests that teachers responding to these items may not have been uncertain about their attitudes regarding homeless students. The results from Phase Three were quite similar, with the category of uncertain creating a mostly ordinal pattern except for the uncertain response category. The corresponding threshold estimates were -1.78, .01, -.24, 2.01.

Altogether, the variable maps, fit statistics, and category characteristic curves provided by the Rasch analyses from the Phase Two data aided in the elimination process of items in order
to create the final attitudes scale, its subscales, and the knowledge scale. The final outcome of
the CTT and IRT analyses was a substantially smaller number of items that could effectively be
used to measure teacher’s attitudes toward homeless students. This finding is discussed at length
in the next chapter. Moreover, as the next set of validity analyses show, there is strong validity
evidence for the TAHS scale as a measure of teachers’ attitudes toward homeless students.

**Validation of the TAHS Scale**

Many steps were taken and analyses were conducted to provide multiple types of validity
evidence for the TAHS scale. Factor analyses addressed the scale’s construct validity and
correlational analyses addressed the scale’s convergent validity, both of which are described in
this section. In addition to these analyses, many steps were taken to address the scale’s content
validity. These steps included providing a clear construct definition and explicating the
theoretical framework underlying the hypothesized relationship between behavior and possessing
varying amounts of the construct—Chapter Two addressed these steps. This chapter has also
provided the results of the operational definition of the construct using Rasch principles, which
also provided content and construct validity evidence. Another process that aided in establishing
the content and face validity of the TAHS scale was the involvement of an expert committee who
reviewed the potential scale items and their respective dimensions. The dimensions with strong
support in the literature, which were proposed for the TAHS scale, were supported by the expert
committee as the most important dimensions to assess.

**Factor Analyses**

Multiple types of factor analyses were conducted as a way of examining the attitude scale’s
construct validity. Initially factor analyses were used on the raw data; these analyses were
followed by second-order factor analyses; lastly residual factor analyses were conducted using
residuals from the Rasch analyses. The following section presents the results from each of these analyses, which were conducted for the attitudes scale; factor analyses were not conducted for the knowledge scale, which would have entailed complex factor analytic procedures due to the dichotomous nature of the data. These analyses were conducted on the Phase Two data before data collection began for Phase Three. This was done to examine and understand the construct validity for the scales before the final data collection in the event that major changes to the scales had to be made in the absence of strong validity evidence. After the Phase Three data collection the results were also factor analyzed and those results are interjected throughout this section.

The attitudes scale was factor analyzed using principal axis factoring and a promax rotation, as it was assumed that the factors would be correlated. The n size fluctuated by item and ranged from 365-310 using a pairwise deletion. Both the Kaiser-Meyer-Olkin test (.72) and Bartlett’s test of sphericity ($p<.01$) suggested that the correlation matrix was appropriate for factoring. The determinant was non-zero (7.75E-008). The results of the analysis provided that eight factors were extracted with eigenvalues greater than 1.0, which explained 45 percent of the variance. Using this extraction criterion, along with theoretical reasoning for observing eight factors, the analysis was re-run with the specification to extract only eight factors so that the associated tables would reflect only eight extracted factors. Like the previous analysis, the n size fluctuated by item and ranged from 365-310 using a pairwise deletion. The tests of sampling adequacy were identical for this analysis as they were for the first analysis, and this analysis explained 43 percent of the variance.

From this analysis, in general, the extracted factors represented the theorized attitude dimensions. Results from the structure matrix, which represents the correlations between the variables and the factors, were reviewed. These results provided that most items loaded highly on
the respective factor for which the item was theorized to belong, with the exception of the items theorized to comprise the Affiliation subscale. More specifically, these three items loaded very low (<.30) across the eight factors, except that item #Q3 loaded moderately-low (.34) on the factor for Attribution: Personal Causation. The eighth factor did not show meaningful groupings of items and only two items (#Q18 & #Q19) from the expectations subscale loaded more highly on this factor than their respective factor, which may reflect that their wording is quite similar and could be answered in a similar manner. The results from the same analysis using Phase Three data provided a similar finding: most items loaded high on their theorized factor, including two out of the three items for the Affiliation subscale. Only nine out of the 43 items in Phase Three loaded higher on another factor than the factor the item was theorized to belong and overall this solution accounted for 49 percent of the variance.

Overall these results provide empirical evidence for seven out of the eight theorized dimensions of attitudes toward homeless students, while the Phase Three results provide empirical evidence for all eight theorized dimensions. However, these results were inconclusive as to whether they could confirm that these factors represent attitudes as a whole. As mentioned, a promax rotation was used, which is preferable when the factors are assumed to be intercorrelated; however, the inter-correlations among these eight factors were generally low to moderate and many were negative. This result suggests that the factors, at this level of detail, were only slightly positively related, if at all, but this does not indicate that they cannot be used to collectively represent attitudes when in fact strong theoretical reasoning suggests that these dimensions are the most relevant areas associated with this construct.

The next set of factor analyses conducted attempts to address whether these factors do in fact represent the broader construct of attitudes toward homeless students. Second-order factor
analyses, using principal axis factoring and a promax rotation, were run using the correlation matrix from the first-order factor analysis described above. The determinant was acceptable (.49), as were the KMO measure of sampling adequacy (.65) and Bartlett’s test of Sphericity (p<.01). The results of this analysis provided that only one factor could be extracted with an eigenvalue greater than one (1.24), which explained 15.5 percent of the variance. Although this is not a large proportion of the overall variance, it suggests that these data do in fact represent one overall construct, when viewed from this perspective. When viewed from the more detailed perspective using first-order factor analyses those results provide that this overall construct of attitudes is comprised of somewhat inter-related factors, which aligns with theoretical reasoning.

The same analysis from the Phase Three data provided a similar, yet improved finding: only one factor could be extracted with an eigenvalue greater than one (1.95), which explained 24 percent of the variance.

The last factor analysis used to analyze the dimensionality of the data was a residual analysis using score residuals from the IRT analysis. The residuals used in this analysis represent the residuals from the rating scale analysis, where the residual is the difference between the observed and expected scores. A principal components extraction procedure was used with a varimax rotation and the n size was 367 across all items. The results provided that the determinant was close to zero, but non-zero (4.55E-007), and KMO (.61) and Bartlett’s test (p<.01) were acceptable. Fourteen factors with eigenvalues greater than one were extracted, yet six had eigenvalues only slightly higher than one, which represents that these factors account for only slightly more than the variation associated with one item. Using only factors with eigenvalues greater than 1.5, eight factors explained 50 percent of the variance. This result largely mirrors the result from the first-order factor analysis.
The same analysis was done using data from Phase Three; the n size was 131 across all items; the determinant was non-zero (1.89E-011), and KMO (.62) and Bartlett’s test (p<.01) were acceptable. Like the results from Phase Two, in this analysis 14 factors with eigenvalues greater than one were extracted, while only eight had eigenvalues greater than 1.5, which explained 57 percent of the variance.

Convergent Validity

As mentioned in the previous chapter convergent validity is an important aspect in scale validation. To establish the convergent validity of the TAHS scale the total scores of the PATH, ATHI, and LTSJ-B scale were correlated with the attitude scale total score. These correlations were conducted using Phase Three data only and used the Rasch person measures, which are the Rasch scale scores in logits. The results of these analyses showed significant, positive correlations between the three scales and the TAHS scale. Specifically, the correlation between the PATH and TAHS scales was moderate ($r = .44, p <.01$); it was also moderate between the LTSJ-B scale and the TAHS scale ($r = .45, p <.01$), and it was also moderate ($r = .30, p <.01$) between the ATHI and the TAHS scales.

It was hypothesized that teachers with a strong belief in teaching for social justice (i.e., a high score on the LTSJ-B scale) would have a very accepting and compassionate attitude toward homeless students (i.e., a high score on the TAHS scale). This hypothesis was confirmed in the moderate, positive correlation between the two scales’ total scores. These results also support the hypotheses regarding the PATH and ATHI instruments and their positive, moderate relationships with the TAHS scale. This result provides strong convergent validity evidence in that the two established attitude scales were theorized to be related to the TAHS scale and this was upheld.
The TAHS scale and the ATHI instrument are similar and given their overlap in the measurement of the causes of homelessness (personal and societal) and willingness to affiliate with the homeless, it was also useful to examine the inter-relationships of these subscales for convergent validity evidence. This analysis was conducted using subscale scores computed using raw scores instead of Rasch person measure scores. Raw scores were used instead of Rasch scores because subscale Rasch scores were not obtained in the analyses because subscale scores are not intended to be reported. It is likely that if the Rasch scores were used in these calculations the results would be similar given that for the entire TAHS scale the total raw score and the Rasch person measure scores were highly correlated ($r = .97, p < .01$).

The computation process of the TAHS subscale scores involved, for each respondent, a summation of the items that comprised the respective subscale. In some cases a respondent may not have answered all of the items comprising the scale. To retain these cases in the computation of the scores a specification was used to impute the mean of the item when it was missing for a respondent. It was further specified that a respondent must have provided responses to at least 50 percent of the items within the subscale in order for a score to be computed. If a respondent only answered one out of three items on a subscale than that respondent did not receive a score for that subscale. The total scores for the TAHS subscales are summations of all of the individual respondents for whom a score could be calculated. This same process was also used for calculating total scale scores and subscale scores for the PATH, ATHI, and LTSJ-B scales.

The correlation among the TAHS and ATHI subscales for personal causation was moderate ($r = .30, p < .01$); and it was moderately-strong between the subscales for social causation ($r = .41, p < .01$) and between the subscales for affiliation ($r = .56, p < .01$). When examining these subscales’ relationships to the complete TAHS scale (which was computed
using Rasch person measure scores) it was found that the ATHI subscales for societal causation and affiliation were slightly correlated \((r = .22, p < .05; r = .23, p < .05\), respectively), whereas the correlation for the Personal Causation subscale was slightly negatively correlated \((r = -.17, p < .05)\).

Additional correlational analyses were conducted between the subscales of the ATHI instrument in order to assess whether these data replicated the results from Kingree and Daves’ (1997) validation study of the ATHI instrument. Using the ATHI subscales for personal causation (PC), social causation (SC), affiliation (AFF), and solutions (SOL) significant correlations were only found between PC and SOL \((r = -.44, p < .01)\). This result indicates that respondents who viewed homeless as due to individual deficiencies (as indicated by high scores on PC) did not agree that there are viable solutions to homelessness (as indicated by high scores on SOL).\(^{15}\) This result was not observed in the findings by Kingree and Daves, and the results that these authors found were not replicated in this study.

Lastly, the intercorrelations among the PATH scale, the subscale for “belief in a just world”, (hereafter referred to the JUST subscale), and the TAHS scale were explored. In this study the JUST subscale included five items from Rubin and Peplau’s (1975) larger scale measuring “belief in a just world” (see Table 4.7 below). In developing the PATH scale Guzewicz and Takooshian’s also used a five item “belief in a just world scale”, however it is unknown which five items from the larger scale they included. Therefore, for this study five items from the full “belief in a just world scale” were chosen on the basis for the relevance to this study. The items were scored using a four-point Likert scale ranging from strongly disagree

\(^{15}\) The ATHI subscale for PC was coded so that high scores represented relatively stigmatizing attitudes; however when it was included as part of the ATHI total score the PC items were recoded so that high scores reflected beliefs that personal factors were not responsible for homelessness.
to strongly agree. The original scale used six response options, but did not specify them, therefore four response options were used that were determined to be the most useful while maintaining consistency with the other scales in the assessment’s administration. The reliability of this short JUST subscale was moderate (α = .44).

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just1</td>
<td>Basically, the world is a just place.</td>
</tr>
<tr>
<td>Just2</td>
<td>By and large, people deserve what they get.</td>
</tr>
<tr>
<td>Just3</td>
<td>Good deeds often go unnoticed and unrewarded, recoded.</td>
</tr>
<tr>
<td>Just4</td>
<td>People who meet with misfortune have often brought it on themselves.</td>
</tr>
<tr>
<td>Just5</td>
<td>Many people suffer through absolutely no fault of their own, recoded.</td>
</tr>
</tbody>
</table>

Teachers in this study were hypothesized to score low on the JUST subscale, which ranged from a minimum of five points to a maximum of 20, with low scores indicating a complete rejection of the Just World theory. Overall, the mean score on the JUST subscale was 10.6 with a standard deviation of 1.8. This result represents a general dismissal of the just world theory, but which borders on the line of acceptance. The relationship between the JUST subscale and the TAHS scale was negative and weak (r = -.24, p < .01), which is consistent with the hypothesized relationship and provides construct validity evidence to the TAHS scale. This result indicates that respondents with a positive attitude toward homeless students also generally reject the theory of a just world. However, the relationship was non-significant for males (r = -.04, p = .43, n = 18), and was significant for females (r = -.27, p < .01, n = 83).

The above finding is also consistent with the finding by Guzewicz and Takooshian (1992), who originally explored the relationship between attitudes toward the homeless using the
PATH scale and beliefs in a just world using their Just World subscale—they found the relationship to be weak, but also negative ($r = -.14$). In this study, the relationship between the PATH scale and the JUST subscale was also moderate and negative ($r = -.37$), which indicates that respondents with more sympathetic attitudes tended to reject the Just World theory. When examined separately by gender it was found that males had a stronger relationship ($r = -.49, p = .04, n = 18$), than females ($r = -.34, p = .02, n = 83$).

Construct Irrelevant Variance

One step that was taken to assist in the validation of the TAHS scale was the removal of respondents with high social desirability scores. As mentioned previously a small subset of respondents were removed from each phase of this study if their responses to an established social desirability scale were deemed too high to be trustworthy. Their removal helped limit potential construct irrelevant variance.

The presence of construct irrelevant variance was also examined by using Differential Item Functioning (DIF) analyses to test the assumption that the items were interpreted similarly by teachers of different genders, and living in different regions. Specifically, teachers in the Northeast and the Southeast were compared, as these were the two most popular regions reported. These analyses were conducted using Phase Three data. High DIF is generally considered to be at least 0.5 logits when comparing the difference in item difficulty between the two groups. Results provided that only two items (Q113r and Q27) showed significant bias on the attitudes scale when analyzed by gender ($p < .05$), and no items showed significant bias when analyzed by region. These results suggest that, in general, the TAHS assessment’s attitude scale contains items that were interpreted similarly across sub-group populations.
Research Question Two

The second research question in this study was stated as:

*What are the relationships among teachers’ contextual variables and their attitudes toward homeless students?*

The specific contextual variables used to answer this question include gender, race, years teaching, experience with homeless students, training on the needs of homeless students, and geographical region. These contextual variables were chosen for this analysis given prior empirical research that found significant relationships between attitudes and certain characteristics, such as age and teaching experience (Cartner, 2007; Sakaris, 1999).

Two variables represent attitudes toward homeless students—the TAHS total score as well as the Rasch person measure score. Both scores were used initially to understand the differences within groups and attitudes toward homeless students. The means and standard deviations by group are provided in Table 4.8 and represent only Phase Three data. The score range for the Rasch person measure scores is infinite, but typically ranges from -3 to +3, while the raw score range is from 43 to 215. As seen in Table 4.8, across all three scores for the entire sample, the average attitude scores reflect very positive attitudes.
Table 4.8
Means and Standard Deviations of TAHS Scale Scores

<table>
<thead>
<tr>
<th>Group (n)</th>
<th>Rasch Person Measure</th>
<th>Raw Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>All (131)</td>
<td>.70</td>
<td>.36</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males (18)</td>
<td>.65</td>
<td>.35</td>
</tr>
<tr>
<td>Females (84)</td>
<td>.74</td>
<td>.33</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (94)</td>
<td>.72</td>
<td>.33</td>
</tr>
<tr>
<td>Black (7)</td>
<td>.78</td>
<td>.44</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast (31)</td>
<td>.78</td>
<td>.26</td>
</tr>
<tr>
<td>Southeast (50)</td>
<td>.68</td>
<td>.37</td>
</tr>
<tr>
<td>Midwest (13)</td>
<td>.84</td>
<td>.29</td>
</tr>
<tr>
<td>Southwest/West (7)</td>
<td>.71</td>
<td>.32</td>
</tr>
<tr>
<td>Years Taught</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 (7)</td>
<td>.76</td>
<td>.38</td>
</tr>
<tr>
<td>6+ (113)</td>
<td>.70</td>
<td>.36</td>
</tr>
<tr>
<td>Taught Homeless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (22)</td>
<td>.60</td>
<td>.32</td>
</tr>
<tr>
<td>Yes (79)</td>
<td>.77</td>
<td>.34</td>
</tr>
<tr>
<td>Trained on Homelessness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (79)</td>
<td>.71</td>
<td>.30</td>
</tr>
<tr>
<td>Yes (24)</td>
<td>.80</td>
<td>.43</td>
</tr>
</tbody>
</table>

To further understand the relationship of these contextual variables and attitudes toward homeless students a multiple regression analysis was used with Rasch person measure scores as the dependent variable. The contextual variables were dummy coded for a total of nine predictor variables, which were entered in the model in blocks (Block 1: gender; Block 2: race; Block 3: years teaching; Block 4: experience with homeless students; Block 5: training on the needs of homeless students; Block 6: geographical region).

The model met the assumptions of linear regression, and the results of the analysis indicated that collectively the contextual variables explained 12 percent of the overall variance in teachers’ attitudes toward homeless students ($F(3, 90) = 1.36, p = .25$). The only variable that

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16 Table 4.8 presents results for only eight dummy variables and does not include the dummy variable for Native America/Alaska Native, which was not included in the table above since the n size was only two respondents.
explained a significant amount of variance when added to the model was whether the respondent had taught homeless students ($b = .19, t = 2.19, p = .03$), however when all of the variables had been added to the model this variable was no longer significant ($b = .17, t = 1.93, p = .06$), although the change in the regression coefficients for this variable was slight—only a difference of 0.02. The practical significance of this finding is still relevant despite the lack of statistical significance, which indicates that teachers who have taught homeless students show improved attitudes over their counterparts who have not taught homeless students.

Overall these results indicate that although the TAHS scale means differed slightly for teachers of various backgrounds and experiences, when analyzed collectively these variables were not significantly related to teacher attitudes toward homeless students. This finding was further supported in the low semipartial correlation coefficients, which represent the correlation between the criterion (i.e., attitudes) and a predictor variable after the variance that the predictor has in common with the other predictors has been removed. All of the semipartial correlation coefficients in this analysis were low ($r = \leq .19$).

Research Question Three

The third research question in this study was stated as:

*What is the relationship between teachers’ knowledge levels and their attitudes toward homeless students?*

The relationship between teachers’ knowledge levels pertaining to homeless students and their attitudes toward them was explored using a one-tailed correlation analysis, as it was hypothesized that a positive relationship would exist. Both raw total scores and Rasch person scores were used for Phase Two and Phase Three data. Table 4.9 presents the means and standard deviations for these scores. The score range for the Rasch person measure scores is
infinite, but typically ranges from -3 to +3; while the raw score range is from 0 to 14. As seen in Table 4.9, respondents in both Phase Two and Three only had moderate knowledge levels.

<table>
<thead>
<tr>
<th>Table 4.9</th>
</tr>
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<tbody>
<tr>
<td><strong>Means and Standard Deviations of TAHS Knowledge Scale Scores</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rasch Person Measure</td>
</tr>
<tr>
<td>Raw Total Score</td>
</tr>
</tbody>
</table>

The results of these analyses indicated that only a small, positive correlation existed between knowledge and attitudes when using Rasch person measure scores and specifically only for the Phase Three respondents ($r = .17, p = .05$). The relationship using raw scores was the same, but not significant ($r = .17, p = .07$), which may be the result of having different sample sizes. The Phase Two results did not show any significant relationships for either the raw score or Rasch person measure score correlations ($r = .05, p = .40$; and $r = .06, p = .27$, respectively). The result of a non-significant relationship between knowledge and attitudes toward homeless students is consistent with prior research that investigated this relationship specifically pertaining to teachers’ knowledge of the McKinney-Vento Act and their attitudes toward homeless students (Cartner, 2007).
Summary of Results

This chapter has provided the results to the study’s primary and secondary research questions. In regard to the primary research question, which concerns the development of the attitudes toward homeless students scale, both CTT and IRT analyses were conducted. These analyses aided in the elimination process of items in order to create the final attitudes scale, its subscales, and the knowledge scale. The final outcome of the CTT and IRT analyses was a substantially smaller number of items that could effectively be used to measure teacher’s attitudes toward homeless students. Additionally, the observed item orderings from each of the attitude subscales and the knowledge scale upheld an important Rasch measurement principle, representing a logical hierarchy that ranged from items easy to endorse (or answer correctly) to those that were difficult to endorse positively (or answer correctly). Moreover, additional correlational and regression analyses indicated empirical construct and convergent validity evidence for the TAHS scale.

In regard to the second research question in this study it was found that although the TAHS scale means differed slightly for teachers of various backgrounds and experiences, when analyzed collectively these variables were not significantly related to teacher attitudes toward homeless students. Lastly, in regard to the third research question, there was only a weak relationship between teachers’ attitudes and their knowledge about homeless students.
CHAPTER FIVE: DISCUSSION

The previous chapter established the Teacher Attitudes toward Homeless Students (TAHS) assessment as an empirically-validated and appropriate measure of teacher attitudes toward homeless students. This chapter discusses this result and the additional findings of this study. The study’s limitations and implications are also discussed, as well as recommendations for future research.

Overview of Findings

This study’s primary research question addressed whether a set of underlying dimensions could be identified and used to effectively measure teacher attitudes toward homeless students. A necessary part of answering this research question involved the development of a measurement scale. Both CTT and IRT analyses were used to develop the scale in response to this research question. These analyses aided in the elimination process of items in order to create the final attitudes scale and its subscales, and a related knowledge scale. The final outcome of the CTT and IRT analyses was a set of 43 items, across eight dimensions (referred to as subscales), which could effectively be used to measure teacher attitudes toward homeless students. Additionally, the findings upheld the principles of Rasch measurement, including unidimensionality, a hierarchical ordering of items, and a continuum of the construct definition. In other words, the findings indicate that the attitudes scale was successfully developed according to explicit a priori measurement criteria. Moreover, additional correlational and regression analyses provided empirical construct and convergent validity evidence for the TAHS scale.

In regard to the second research question in this study it was found that although the attitude scale means differed slightly for teachers of various backgrounds and experiences, when
analyzed collectively these variables were not significantly related to teacher attitudes toward homeless students. Lastly, in regard to the third research question, there was only a weak relationship between teachers’ attitudes and their knowledge about homeless students.

Discussion of Findings

Research Question One

The findings from this study extend prior research on the topic of attitudes toward the homeless in general, and specifically teacher attitudes toward homeless students. Much of the published research on attitudes toward the homeless focuses on measurement in the broad realm of the general public’s attitudes toward the general homeless population (i.e., homeless individuals). Although useful in many ways, instruments such as the Public Attitudes Toward Homelessness scale (Guzewicz & Takooshian, 1992) and the Attitudes Toward the Homeless Inventory (Kingree and Daves, 1997), are not appropriate to specifically measure teachers’ attitudes toward homeless students—a homeless population that differs from the general homeless population. Dissertation studies similar in nature to this study, which investigated teachers’ attitudes toward homeless students, such as the work of Coach (1998), Cartner (1999), Sakaris (1999), and Torres (2004), were limited in their generalizability due to selective samples and either did not use measurement instruments specific to these populations or did not report on the psychometric properties of their scales.

This study furthered the development efforts from these studies by successfully creating a measurement scale with strong psychometric properties. The outcome of this study is a scale that measures teachers’ attitudes toward homeless students, with subscales that measure eight dimensions of these attitudes. The identification of eight dimensions that could successfully be
used to measure teachers’ attitudes toward homeless students satisfies this study’s first research question. The final eight dimensions represent Affiliation, Attribution: Personal Causation, Attribution: Societal Causation, Educational & Behavioral Expectations, Educational & Social Supports, Tolerance, Educational Issues, and Living Environments. Factor analyses provided empirical validation for these dimensions—specifically, results from the Phase Two factor analyses provided empirical evidence for seven out of the eight dimensions, whereas the Phase Three results supported all eight dimensions.

Although it was originally hypothesized that a total of nine dimensions would comprise the construct of attitudes toward homeless students, it was found that the education environments dimension was not successfully developed, which was reflected by poor item and subscale properties. However, upon further consideration it was determined that this dimension was not a necessary focal area for this assessment given that many previous education environment issues are no longer a prominent problem for homeless students since federal laws banning separate educational settings for homeless students were enacted. Regardless, two items measuring other important education environment topics were retained as part of an additional set of “flag” items. These flag items, consisting of four items in total, were generally very easy to positively endorse by most respondents. Therefore, negative responses to these items should provide useful insight about a teacher’s attitude in future administrations of the TAHS assessment.

The outcome of this study—the TAHS scale—both support and extend the current evidence base regarding teachers’ attitudes toward homeless students. Prior research studies investigating this topic found that teachers’ attitudes are generally positive. The findings from this study support this conclusion, but offer a nuanced approach to interpreting a respondent’s attitude as positive or negative. The use of the Rasch measurement framework allowed for
meaningful interpretations of scores given that when the principles of Rasch measurement are upheld the observed person locations (i.e., scores), are easily translated into score interpretations based upon the probability of response to any item. This process is made possible when the items reflect an operational definition of the construct.

In this study the TAHS assessment met the principles of Rasch measurement, including that the observed item orderings from each of the attitude subscales and the knowledge scale represented a logical hierarchy ranging from items easy to endorse (or answer correctly) to those that were difficult to endorse positively (or answer correctly). Therefore, the observed item orderings operationalized the constructs of teachers’ attitudes and knowledge levels in this study. This information was used to create score descriptors for the overall attitude scores and knowledge scores. The score descriptors include a substantive statement regarding a teacher’s estimated attitude toward or knowledge level of homeless students. The score descriptors are presented in Appendix C and discussed further in the Implications section below.

Use of the Rasch framework also provided multiple benefits for this study. First, TAHS scale scores are on an equal interval scale, which is a desirable measurement property that lends itself well to interpreting scores, especially given that each of the eight dimensions are unidimensional and have predictable hierarchies of item calibrations spanning a range of difficulty. Second, the process provided person and item scores that were on the same scale. This provided item values that were calibrated and person abilities that were measured on a shared continuum that accounted for the latent trait. This property proved useful when an item response was missing because the model estimated the respondent’s probable rating without imputing the missing data, such as is the case when simply using summed raw scores. A related advantage of Rasch analysis in this study is that the summed ratings of the attitudes or knowledge Rasch
scores represented how much of the trait had been mastered, which was possible because Rasch analyses produce sufficient statistics.

An additional benefit of Rasch analysis in this study was that the homogeneity of the latent trait was maximized, meaning that the scale was primarily measuring one construct, while efficiency was maintained, which yielded a valid and simple measure of attitudes. The Rasch analyses used in this study, coupled with CTT analyses, allowed for efficiency in the scale development process by identifying items for removal given their redundancy or lack of support for their theorized dimension. The result of this iterative process was an efficient scale that can be applied in educational settings to measure teachers’ attitudes toward homeless students. This result was made possible through the use of multiple pieces of information, including fit statistics, which provided a comparison between the observed result and what the model predicted based on the estimated measures. As the results in Chapter 4 indicated, the fit statistics from Phases Two and Three were acceptable and the data fit the model well, but not perfectly.

All of the information provided by the Rasch analyses used in this study assisted in the creation of an internally valid assessment. Moreover, despite a few limitations relating to the sample, which are discussed below, in general the attitudes and knowledge scales allow for generalizability of results given that Rasch analysis (when using an appropriate sample) produces measures that are independent of the particular sample to which they are applied. Furthermore, the majority of the items were invariance across groups, which limited the assessment’s construct irrelevant variance.
Validation & Secondary Research Questions

The validation process of the TAHS scale included many analyses and steps to establish content, construct, and convergent validity evidence. The last chapter presented the results of these efforts, and although all were important in this study, a few results are particularly noteworthy.

As part of the process to establish the scale’s construct validity, multiple factor analyses were used, including first- and second-order analyses, followed by residual analyses. As mentioned above, the overall results provided strong empirical support for the theorized dimensions of the TAHS scale. However, in the Phase Two analysis the Affiliation subscale was somewhat problematic: the three items that were theorized to comprise this subscale loaded low across the eight factors, and one item loaded moderately-low on the factor for Attribution: Personal Causation. One explanation for this finding is that these items may not have grouped together strongly due to many respondents rating them as uncertain (the item means were in the range of 3.5-3.8 when analyzed on the overall attitudes scale). Respondents may have provided this response due to the ambiguity in the subject of the item—these three items addressed one’s willingness to affiliate with a homeless person, homeless people, and homeless children and families, respectively. One respondent commented in email communication that item Q3 in particular was difficult to answer because she did not know what type of homeless person to think of when responding. She explained that she responded uncertain to this item because she would have answered differently depending on whether she was thinking of the homeless students with whom she often ate lunch at her school compared to homeless adults she did not know. It is possible that other respondents faced a similar dilemma in responding to this and the other Affiliation items despite attempts to make the subject of the items more specific, which was a recommendation from the dissertation committee after the pilot study was completed.
Nevertheless, the results from Phase Three showed improved item loadings on the *Affiliation* factor for these items, which may indicate that when respondents view only these three items, as opposed to the eight items respondents received in Phase Two, the subject of the items is more straightforward.

Another noteworthy finding pertaining to the validation process of the TAHS scale was the relationship of the ATHI subscales to the TAHS scale. In this study it was hypothesized that teachers who view homelessness as a personal problem (i.e., the result of laziness or mental defect), or who are unwilling to affiliate with homeless persons, would yield low scores (indicating negative attitudes) on the TAHS scale. Implied in these hypotheses was the positive alternative, where teachers who viewed homelessness as a societal problem, and those who were willing to affiliate with homeless persons, would yield high, positive attitudes. The results from the correlational analyses exploring these relationships indicated that the ATHI subscales for *Societal Causation* and *Affiliation* were only slightly, positively correlated to the attitudes score using the Rasch person measure ($r = .22, p < .05; r = .23, p < .05$, respectively), whereas the correlation for the *Personal Causation* subscale was slightly negative ($r = -.17, p < .05$). These results suggest that a teacher’s attitude was somewhat related to whether they viewed homelessness as the result of societal causes, where teachers who do so were more inclined to have positive attitudes toward homeless students, and that those who viewed homelessness as the result of personal causes tended to have negative attitudes. It also suggests that teachers who were willing to affiliate with homeless students had more positive attitudes toward them. These findings have implications for teachers, who are in a role that requires affiliation with homeless students, and underscores the need for teachers to fully understand the causes of homelessness in
order to maintain positive attitudes toward them. This is an important finding that will be
discussed again in relation to the third research question.

This study also explored research questions pertaining to the obtained results from the
TAHS attitudes in relation to respondents’ background and contextual information, as well as the
relationship between teachers’ attitudes and their knowledge. The secondary research questions
of this study investigated these topics.

The first secondary research question explored the relationship among variables for a
teacher’s race, gender, geographical region, experience with homeless students, and training on
the needs of homeless students with teacher attitudes toward homeless students. The results of
the regression analysis indicated that when analyzed together, none of the teacher demographic
variables were significantly related to teacher attitudes. These results are contradictory to
previous research that found that attitudes (the general public’s and teachers’ attitudes) were
associated with demographic differences including one’s gender, ethnicity, urban location, and
teaching experience.

The results from this study may contradict the results from previous studies for a number
of reasons. The first is that each of the previous studies used different attitude scales to measure
attitudes. In the published studies (Guzewicz & Takooshian, 1992; Kingree & Daves, 1997) that
found differences in attitudes related to demographic characteristics the scales measured the
general public’s attitudes toward the general homeless population. Given that the measurement
of attitudes in this study pertained to only teachers and homeless children, it is not surprising that
the same relationships were not observed between attitudes and demographic characteristics.
Although teachers are part of the general public population, homeless students’ characteristics
differ from the general homeless population, which may explain the lack of observed differences in this study.

Another reason why the results from this study are contradictory to previous research, specifically the dissertation studies that found certain characteristics (e.g., age and teaching experience) were associated with differing attitudes, is twofold. First, similar to the published studies mentioned above, these studies also used different attitudinal scales from the one used in this study. The second reason relates to the analyses that were used to explore the relationships. In this study the demographic and background characteristics were analyzed collectively in one regression analysis. This method provided an overall picture of whether many characteristics were associated with teacher attitudes, whereas the previous studies (Cartner, 2007; Coach, 1998; Sakaris, 1999; Torres, 2004) relied on separate correlational analyses to analyze the individual relationships. The regression analysis in this study produced part-correlations between teachers’ attitudes and demographic and background variables, but nonetheless the correlations did not show any significant relationships—all of the correlations were weak.

Although the results of this study did not support significant relationships among teachers’ demographic or background characteristics and their attitudes, it does not suggest that such relationships do not exist. It is possible that the TAHS scale was not able to detect such relationships, or that the diversity of the samples used were too limited to identify such differences. Alternatively, this finding may represent that when teachers’ demographic and background characteristics are considered collectively, their attitudes do not significantly differ. However, the observation that the variable for a teacher’s experience with homeless student was statistically significant in the model when initially entered and retained a moderate regression
coefficient in the final solution provides a practical result that this experience does impact a teacher’s attitude, where those with experience have more positive attitudes than those without.

The other secondary research question explored the correlational relationship between teachers’ attitudes and their knowledge levels pertaining to homeless students. Correlations were obtained using raw scores and Rasch Person Measure scores, for both Phase Two and Phase Three data. The results of these analyses were mixed: only a small, positive relationship was found between attitudes and knowledge when using Rasch person measure scores and specifically only when using the Phase Three respondents. This difference may be due, in part to the high knowledge level of the Phase 3 sample. Prior research (Cartner, 2007) supports the finding of a non-significant relationship between knowledge and attitudes toward homeless students.

The lack of strong empirical support for the theoretical relationship between teachers’ knowledge levels pertaining to homeless students and their attitudes toward them does not suggest that teachers’ knowledge in this area does not impact their attitudes. In fact, it is counterintuitive to that follows logical reasoning—that knowledge and attitudes are inter-related. Theoretical reasoning supports that when teachers are knowledgeable about the complex circumstances of homeless students and their families, as well as laws pertaining to their education, that teachers’ attitudes and actions can have a very positive impact (Cartner, 2007; Coach, 1998; Sakaris, 1999; Swick, 1999; Torres, 2004). Furthermore, the results of the validation analysis between the ATHI subscale for Societal Causation, discussed above, suggest that there is a relationship between attitudes and one’s beliefs around the causes of homelessness. This supports the theoretical reasoning that knowledge and attitudes are inter-related, especially as they pertain to an understanding of the primary causes of homelessness.
As referenced in Chapter Two, Swick (1999) proposed that it is through the knowledge and attitudes of teachers and staff that make the difference—where homeless children and their families are empowered to influence their lives and the lives of others. When educators understand the complex circumstances of homeless families they can strengthen children’s learning potential by recognizing and addressing the immediate needs of children and their families (Swick, 1999). According to this reasoning teachers and families are seen as co-collaborators in the process to help remove and remedy the many barriers that homeless children face in accessing and succeeding in school. The lack of strong support in this study for this theoretical reasoning may be a factor of the sample’s moderate knowledge levels. If a more variable, and knowledgeable sample had been obtained it is possible that a stronger relationship between attitudes and knowledge could have been observed.

Limitations

Like any research study, this study has limitations that must be acknowledged. The primary limitations relate to this study’s sample, response rates, and representativeness. The last chapter presented the results of the sampling process for each phase of the study. In Phase One 880 teachers were contacted and 67 responded, for a participation rate of eight percent. In Phase Two the participation rate was 12 percent (426 responded out of 3,503). In Phase Three the participation was the highest at 18 percent (159 responded out of 869).

The foremost limitation of this study is the low response rates across the three phases. One of this study’s intentions was to develop the assessment using a nationally representative sample. This study is limited in meeting this aim in that some regions of the United States are overly represented in the sample. This may have led to certain teachers’ attitudes not being
reflected during the scale development process. However, the participants do reflect different areas across the country, primarily the Southeast, Northeast, and Midwest. Aside from geographic location, the study was limited in obtaining responses from a racially diverse sample. Throughout each of the three phases most of the responses were White (≥85%). However, this study was successful in recruiting a diverse sample of teachers with varying experiences in their years of teaching, grade level taught, religion, and experience with homeless students. Although it would have been preferable if a more representative sample had been used for this study, including a more geographically and racially diverse sample, the scales developed in this study can be viewed as reflective of a diverse sample of teachers and thus appropriate for use with teachers in various settings and of various backgrounds.

An additional limitation of this study that may relate to the sample is the observation that the majority of the items were easy to endorse positively, which impacted the scale development process. This finding may be the result of a sample that was very positive in their attitudes. This may be the case given that teachers were recruited for this study knowing that it concerned the topic of homelessness, and therefore may have been more inclined to respond if they had a positive attitude about homeless students. The alternate reasoning for this finding may be that the task of creating difficult items that discriminated at the high end of the scale, (where many respondents were located and which indicates positive attitudes), was somewhat unsuccessful. It was difficult to find or create many items that could achieve this discrimination. However, this issue was addressed by including some items where the highest response category was not selected by many respondents. These items were successful at providing discrimination among teachers with very positive attitudes.
An additional limitation arises out of the complexity of attitudinal measurement, where the teachers assessed in this study may have concealed their true attitudes toward homeless students due to a number of various factors, including, but not limited to, embarrassment and judgment by others. In his seminal work on the measurement of attitudes Thurstone (1959) alluded to the problem of not necessarily knowing whether the observed measurement is in accordance with the respondent’s true attitude or actions. He cautioned that the process of attitudinal measurement is subject to uncertainty and has the potential for measurement error. This was a potential limitation in this study given that respondents may not have expressed their true attitude for fear of stigma, especially if they held negative attitudes. This could also be a limitation of the scale when it is used in the future, especially if teachers withhold their true attitude for fear of repercussion from an authority figure. Although this limitation could never fully be remedied, as measurement is always an estimate of the truth, the assessment development process addressed this limitation in multiple ways, both within this study and for its future use.

First, the format of the TAHS assessment as a non-verbal, self-report assessment provided the respondents with anonymity and a level of comfort to encourage their provision of their true attitude. This format will also be used in the future, and will allow responses to be anonymous if used widely within an educational setting. Second, the TAHS assessment was developed to include a social desirability scale, which was used to remove socially desirable cases from all analyses. This measure can also be used in future administrations to assess a respondent’s trustworthiness through their provision of socially desirable responses.

Another related limitation of this research is also due to the complexity of attitudinal measurement, specifically as it pertains to teachers’ awareness of homeless students in their
classrooms. Approximately 20 percent of respondents in this study reported no experience teaching a homeless student, although some of these teachers may have unknowingly taught homeless students, as federal privacy laws protect a student’s housing status from public disclosure (outside of informing school administrators). It is possible that including teachers in the sample who had not taught homeless students, (knowingly or not), could have impacted the construct validity of the scale. Their attitudes toward homeless students may not have had authentic justification and may not have actually represented measurement on the construct of interest, but rather reflected some vague population of homeless students who live in a world separate from theirs.

On the other hand, it is conceivable that these teachers may in fact have had strong attitudes toward homeless students. Teachers’ lack of experience teaching a homeless student does not exclude them from having an attitude about homeless students in general. Rather, there is the potential that teachers who do not have first-hand experience with homeless students may have more stereotypical attitudes and misunderstandings of these children due to their lack of insight into the authentic situations of children who are homeless. As Swick (1996) found in his work on training teachers to reconstruct their views toward homeless families and children, when teachers visited shelters, interacted with people who were helping homeless families, and became involved in service learning activities in programs that served homeless families, these teachers positively transformed their views of the homeless. Often teachers realized that they had held unfounded negative attitudes toward children who were homeless. Therefore, it likely enhanced, rather than limited, the construct validity of this study to include both teachers who had taught and had not taught homeless students.
The last limitation of this work pertains to the complexity of the homeless student population. Many school-age homeless children do not attend school, especially unaccompanied youth who would typically be in middle or high school (NCFH, 2009). Of those who do, many do not identify as homeless with their school as it is the responsibility of the student’s parents, (or in the case of an unaccompanied youth, the student’s responsibility) to provide housing status information. Some homeless families do not report to the school that they are homeless for fear of losing custody or fear of facing the stigma attached to being homeless (NCHE, NAECY, & NLCHP, 2008b). Consequently, many of the known homeless students in schools are in elementary school and are living in shelters, as opposed to doubled-up situations or in places not meant for habitation. This complexity in the homeless student population may have impacted the development of the TAHS assessment given that teachers’ attitudes in this study may have reflected a limited population of homeless students, namely elementary school students who live in shelters. It is difficult to estimate how representative these students are of the greater homeless student population since homeless children and youth not attending school or not identifying as homeless within a school are not counted in statewide data collection efforts. Hence, the TAHS assessment may be limited in its utility for measuring teachers’ attitudes as they pertain to all homeless children, especially those in middle or high school or not living in shelters.

Recommendations for Future Research
The conclusion of this research study provides the foundation for multiple avenues of research using the TAHS assessment. These opportunities will help solidify the assessment’s construct validity, as well as support its practical utility. Additionally, each of the following three
recommendations for future research are endeavors that could further the empirical base for measuring teachers’ attitudes toward homeless students.

The first recommendation for future research is to explore the relationship between scores on the TAHS assessment, including both the attitudes and knowledge scales, prior to and after a training on homelessness awareness and sensitivity. With the proper protocols in place to minimize internal validity threats, this research could provide very useful information to both researchers and educators. First, this research could be used to assess the scales’ ability to measure change in attitudes and knowledge given the theory that professional development training for educators on homelessness would improve participants’ attitudes toward and knowledge about homeless students. Evidence of the scale’s ability to measure change might include improved item statistics using the post-training responses given that certain items’ statistics on the TAHS knowledge scale would likely improve if the respondents were more knowledgeable about the topic (e.g., items Q51, Q60e). Second, if the scale is found sensitive enough to measure changes in attitudes and knowledge after an intervention, this use of this scale could inform a teacher or a principal on the quality of the professional development in terms of whether it was effective at increasing teachers’ attitudes and knowledge. Additionally, the post-training results could be used with confidence as a measure of teachers’ attitudes and knowledge.

The second recommendation for future research is to investigate the theory that improved teacher attitudes can lead to improved student achievement. The second chapter of this study discussed the theory that teachers’ awareness of the challenges and situations experienced by homeless students can enrich their understandings of the complex and challenging lives these children experience (Powers-Costello & Swick, 2008) and can allow them to empower homeless students and their families (Swick, 1999). In turn, this refined understanding can facilitate the
development of more sensitive, responsive, and empowering relationships between teachers and their homeless students, which may help lay the foundation for increased achievement. This theory lacks empirical evidence, but with the development of the TAHS assessment it is possible to explore the relationship between teachers’ attitudes and student achievement. The relationship between teachers’ knowledge levels and student achievement would also be possible to explore using the knowledge scale in the TAHS assessment. Similar to the first recommendation, it would be possible to look at the relationship between attitudes and achievement, as well as knowledge and achievement, prior to and after a training intervention on homelessness awareness and sensitivity.

The final recommendation for future research is to conduct additional validation analyses for the attitudes scale. Specifically, evidence of concurrent validity would provide useful support for the attitudes scale as a measure that can distinguish between groups that it should theoretically be able to distinguish between. This analysis might entail administering the assessment to both teachers and education administrators, such as principals, or to both teachers and the general public. If the scale is able to discriminate between groups, especially very similar groups, it would provide powerful, concurrent validity evidence. An additional recommended validation analysis is to examine the degree to which the scores on the TAHS scale are related to other measures that they should not be theoretically similar to. Low correlations between the TAHS scale and a literacy assessment for teacher licensure, for example, would be evidence of discriminant validity. This type of validity would further support the construct validity of the TAHS scale.
Implications

The foremost implication of this study is the successful creation of the TAHS assessment. Despite the limitations discussed above, overall the TAHS scale allows for reliable and accurate measurement of teacher attitudes toward homeless students from which valid inferences can be made, which is distinct from previous research. As part of the development process eight attitude dimensions were theorized as representing the construct of teacher attitudes toward homeless students, which empirical evidence from this study supported. These dimensions furthered the theoretical and empirical base for understanding this complex, multidimensional construct.

Moreover, the identification of these eight dimensions has implications for understanding the complex nature of attitudes in other areas including various professional fields. The definition of the construct of teacher attitudes toward homeless students in this study relied upon and incorporated definitions from the literature relating to attitudes toward the homeless in general as well as in the medical profession. Specifically, several of the final eight dimensions identified in this study were based upon their identification in other settings, including the dimensions for Affiliation, Attribution, and Tolerance. Not only has this study provided validation for the relevance of these dimensions when measuring attitudes toward homeless populations, but it has also identified other relevant dimensions that should be considered. For example, the dimensions for Expectations and Education and Social Supports may be applicable in other settings, such as measuring medical provider attitudes, yet would need to be adapted to be relevant to that particular field—potential items could address medical providers’ expectations about a homeless person’s willingness to adhere to a medical regiment, or a medical provider’s perceptions and awareness of support services for homeless persons who are in need of medical treatment.
This broadened understanding of the construct of teacher attitudes toward homeless students and identification of important dimensions that may be relevant in other fields, makes this work distinct from any current measurement instrument assessing this construct. This uniqueness contributes to the utility of the results as no other instrument currently provides such comprehensive, theoretically-based, and sound results in this realm. However, the real utility of the multifaceted TAHS assessment resides in the use of the scores for an individual or group of teachers.

As discussed in Chapter Three, the scores provided to teachers are of great significance to the measurement of this construct. Teacher reflection and actions in response to these scores have the potential for direct impact in creating an equal educational opportunity for homeless students. The scores and the accompanying descriptors can assist in the interpretation of teachers’ results. The attitude scores encompass a range of attitudes from negative (i.e., insensitive and/or prejudiced) to positive (i.e., compassionate and caring). The knowledge scale ranges from ignorance to knowledgeable. The score interpretations allow a teacher to comprehend his or her attitude and knowledge level. This understanding is the first step in overcoming insensitivity or ignorance, if applicable, which can be achieved with the help of various, widely available resources. In turn, this may improve the educational experience for homeless students.

The teacher attitude and knowledge scores will not only have utility for individual teachers, but they will also provide the basis for decisions regarding teacher training around the issues of homelessness. The score information will allow educational staff, administrators, and state- and federal-level authorities to gauge the status of teachers’ attitudes toward homeless students and the need for targeted professional development. While more research is needed in
this specific application, it is possible that the TAHS assessment can be used to measure change in attitudes and knowledge scores for individual or groups of teachers in response to specific teacher training. Furthermore, the findings from this study and the TAHS assessment provide the opportunity to measure change over time in teachers’ attitudes toward and knowledge of homeless students at a broader level. The results from future administrations of the assessment can be used to analyze trends in teacher attitudes, which may be the result of changing cultural values, or some other phenomenon. This study provides empirical data for which future data can be compared.

In addition to these benefits, the information obtained from the contextual and demographic items in conjunction with teachers’ attitude and knowledge scores has multiple benefits. For example, the observed relationship between a teacher’s attitude toward homeless students and their experience teaching such students can have important implications for helping teachers construct positive perceptions and attitudes toward homeless students in the future. Although this study did not find strong evidence for differentiated attitudes related to teachers’ experience teaching homeless students, in the future when this relationship is explored for an individual teacher the result may have implications for that teacher, including their instructional assignment within a school. Furthermore, for teachers who have unknowingly taught homeless students this assessment provides the opportunity to reflect on their attitude toward these “invisible” homeless children.

Overall, the identification of the dimensions of the attitudes scale and the creation of the TAHS assessment has provided the potential for new avenues of measurement of teacher attitudes toward homeless students. This assessment provides the means to begin the process of
Conclusion

As discussed throughout this chapter, by addressing the research questions in this study this research has extended current theory and provided empirical evidence pertaining to teachers’ attitudes toward homeless students. Specifically, it has identified eight dimensions, comprising the TAHS scale, which can be used to effectively measure teachers’ attitudes toward homeless students. Moreover, using the TAHS scale and the related knowledge scale it was found that teachers generally have positive attitudes toward homeless students and moderate knowledge related to homelessness among students and the educational laws that pertain to them.

Although these findings are optimistic, it should not suggest that this is an area that demands little attention. The previous chapters have provided the basis for which measurement of teachers’ attitudes toward homeless students is incredibly important, not the least of which is the evidence that teachers evaluate and view homeless children differently than non-homeless children (Nabors et al., 2005; Anooshian, 2000). Moreover, teachers’ negative attitudes toward homeless students may pose one of the strongest impediments to homeless students’ success in school (Swick, 2000).

This study provided the basis for future measurement of this important construct, which plays an important role in teaching for social justice. Teachers are in a unique role to provide equity in learning opportunities and to promote respect for social groups. If even one teacher holds a negative attitude toward homeless students the impact of that one teacher’s attitude can be widespread as well as dramatic for these students who already face many barriers in
education. Although homeless students are resilient (Obradović et al., 2009), and homelessness is generally a temporary state (Huntington, Buckner, & Bassuk, 2008), action is needed to address the potential for negative teacher attitudes toward these students, especially given the recent increases in the homeless population to where an estimated one in forty-five children are currently homeless (NCFH, 2011).

Teachers not only need to have positive attitudes toward homeless students, but they must also be knowledgeable about the complex circumstances that these students face, and to recognize that homeless students are not a heterogeneous group—they have markedly diverse educational needs (Huntington, Buckner, & Bassuk, 2008; Obradović et al., 2009). The development of the TAHS assessment allows future educators and researchers to not only study, but also address this important topic.
References


National Low Income Housing Coalition. (NLIHC, 2005). *Out of Reach 2005*. Retrieved February 6, 2011, from National Low-Income Housing Coalition website:
http://www.nlihc.org/oor/oor2005/

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http://www.nlihc.org/oor/oor2008/


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APPENDIX A: FEDERAL DEFINITION OF HOMELESS

The U.S. Department of Housing and Urban Development (HUD) defines the term “homeless” or "homeless individual or homeless person" as--

1. an individual who lacks a fixed, regular, and adequate nighttime residence; and

2. an individual who has a primary nighttime residence that is -

   A. a supervised publicly or privately operated shelter designed to provide temporary living accommodations (including welfare hotels, congregate shelters, and transitional housing for the mentally ill);

   B. an institution that provides a temporary residence for individuals intended to be institutionalized; or

   C. a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings.\(^\text{17}\)

APPENDIX B: SCORE DESCRIPTORS

This appendix provides the score descriptors for the attitude and knowledge scaled scores. The score descriptors were created using the Phase 3 person and item logit scores provided by the Rasch analysis. The logits were transformed to achieve the scales presented here, using the following transformation, which has been used in past research (Ludlow & Haley, 1995):

\[(\text{person logit}) - (\text{minimum person logit}) / (\text{logit range of scale})]*10.\]

This provided both person and item scores on the same 11-point scale. This transformation was conducted in order to make the obtained scores from the Rasch analysis more interpretable, as logits are typically difficult to comprehend. The hierarchical ordering of the items was used as a reference in creating the score descriptors, which can assist in interpreting results.

Attitudes

The attitude scores range from 0 to 10, where low scores represent negative (i.e., insensitive and/or prejudiced) attitudes, and high scores represent positive (e.g., high academic expectations, willing to affiliate and offer support) attitudes. Table B.1 provides an overview of the scale scores and the attitude dimensions that each score level is associated with. A lowercase “x” indicates that a person receiving this scale score may have positively endorsed some items on the respective dimension. An uppercase “X” indicates that a person receiving this scale score positively endorsed all of the items on the respective dimension. For example, a person receiving a scale score of four positively endorsed three out of the four items on the Affiliation subscale.
Table B.1
*Overview of Attitude Scale Scores & Endorsement of Associated Dimensions*

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Affiliation</th>
<th>Societal Causation</th>
<th>Personal Causation</th>
<th>Expectations</th>
<th>Education &amp; Support Services</th>
<th>Tolerance</th>
<th>Education Issues</th>
<th>Living Environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>X</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1-2</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>3-4</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5-6</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>7-8</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>9-10</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

X = full endorsement of dimension; x = partial endorsement of dimension.
The next table, Table B.2, provides the descriptions for each score level.
<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>This category represents <strong>very negative</strong> attitudes toward homeless students. A person with this score is not willing to affiliate with the homeless; attributes the causes of homelessness to personal, rather than societal causes; has low expectations for homeless students; is unaware or unlikely to contact support services for homeless students; is unfamiliar with the characteristics of homeless students; is unfamiliar with the educational barriers and issues that homeless students face; does not understand the implications of living environments for homeless students; however they are aware that they should pay attention to the academic needs of homeless students.</td>
</tr>
<tr>
<td>1-2</td>
<td>This category represents <strong>negative</strong> attitudes toward homeless students. A person with this score generally does not have the characteristics of those with moderately-to-very positive attitudes; however they do have an interest in learning more about homeless students; they do not fully understand the causes of homelessness; and they are willing to seek some support services for homeless students, including contacting school administrators.</td>
</tr>
<tr>
<td>3-4</td>
<td>This category represents <strong>moderately negative</strong> attitudes toward homeless students. In addition to the previous description, a person with this score, however, is aware of the most common educational issues and barriers for homeless students; they have confidence in their ability to teach homeless students; and they are willing to work with homeless students.</td>
</tr>
<tr>
<td>5-6</td>
<td>This category represents <strong>moderately positive</strong> attitudes toward homeless students. A person with this score expects homeless students to perform well academically; they are willing to affiliate with homeless people and students; and they may not fully understand the causes of homelessness.</td>
</tr>
<tr>
<td>7-8</td>
<td>This category represents <strong>positive</strong> attitudes toward homeless students. In addition to the previous description a person with this score is aware of the characteristics associated with homeless students; they understand the implications of living environments for homeless students; and they fully understands that homelessness is attributed to societal causes, rather than personal causes.</td>
</tr>
<tr>
<td>9-10</td>
<td>This category represents <strong>very positive</strong> attitudes toward homeless students. In addition to the previous description, a person with this score understands that homeless students face considerable educational issues, which may include negative attitudes from teachers and insensitivity from school staff; and they have very high academic expectations for homeless students, including that they will graduate from high school.</td>
</tr>
</tbody>
</table>
Knowledge

The knowledge scale also ranges from 0 to 10, where a low score represents a lack of knowledge (i.e., ignorance), and a high score represents a strong knowledge base related to homelessness among students and the educational laws that pertain to them (i.e., very knowledgeable).

Table B.3
Knowledge Scale Score Descriptors

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>Scores in this range represent a little to no knowledge base related to homelessness among students and the educational laws that pertain to them; however, they are mostly ignorant in these areas. A person scoring in this category is <strong>minimally knowledgeable</strong> of the types of living situations that are included in the homeless definition provided by federal education law; and they are unaware of the rights of homeless students, including whether homeless students have a right to attend school regardless of the length of time the homeless student has lived in that school district.</td>
</tr>
<tr>
<td>4-6</td>
<td>Scores in this range represent a partial knowledge base related to homelessness among students and the educational laws that pertain to them. A person scoring in this category is <strong>partially knowledgeable</strong> of the types of living situations that are included in the homeless definition provided by federal education law, but may not be aware of all of the applicable living situations that qualify; and they are somewhat aware of the rights of homeless students.</td>
</tr>
<tr>
<td>7-8</td>
<td>Scores in this range represent a moderate knowledge base related to homelessness among students and the educational laws that pertain to them. A person scoring in this category is <strong>moderately knowledgeable</strong> of the types of living situations that are included in the homeless definition provided by federal education law; they are aware of the rights of homeless students; and they may not fully understand the typical family composition of homeless students.</td>
</tr>
<tr>
<td>9-10</td>
<td>Scores in this range represent a substantial knowledge base related to homelessness among students and the educational laws that pertain to them. A person scoring in this category is <strong>very knowledgeable</strong> of the types of living situations that are included in the homeless definition provided by federal education law; they are aware of the rights of homeless students; and they understand the typical family composition of homeless students.</td>
</tr>
</tbody>
</table>
Table B.4 provides the distribution of respondents from the Phase Three analysis receiving each of the attitude and knowledge scaled scores. The table shows that the highest percentage of respondents received an attitudes score in the middle range (5-6), while only six percent received the highest score range (9-10). On the knowledge scale most respondents received scores in the middle range (4-6), while 11 percent received the highest knowledge score (9-10).

Table B.4

*Distribution of Attitude and Knowledge Scale Scores*

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>.8</td>
<td>.8</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>.8</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>2.3</td>
<td>3.8</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>5.3</td>
<td>9.2</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>6.9</td>
<td>16.0</td>
</tr>
<tr>
<td>5</td>
<td>26</td>
<td>19.8</td>
<td>35.9</td>
</tr>
<tr>
<td>6</td>
<td>34</td>
<td>26.0</td>
<td>61.8</td>
</tr>
<tr>
<td>7</td>
<td>29</td>
<td>22.1</td>
<td>84.0</td>
</tr>
<tr>
<td>8</td>
<td>13</td>
<td>9.9</td>
<td>93.9</td>
</tr>
<tr>
<td>9</td>
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<td>3.1</td>
<td>96.9</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>3.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>.8</td>
<td>.8</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1.5</td>
<td>2.3</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>5.3</td>
<td>7.6</td>
</tr>
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<td>3</td>
<td>9</td>
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</tr>
<tr>
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<td>41</td>
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<td>10</td>
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<td>53.4</td>
</tr>
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<td>30</td>
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<td>7</td>
<td>8</td>
<td>6.1</td>
<td>82.4</td>
</tr>
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<td>8</td>
<td>9</td>
<td>6.9</td>
<td>89.3</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>89.3</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>10.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>
APPENDIX C: ACTIONS FOR IMPROVING TEACHER ATTITUDES

Policy Alternatives

This appendix includes an overview of three complimentary courses of action for directly improving teachers’ attitudes toward homeless students and indirectly or directly improving the educational opportunities for homeless students. These courses of action can be thought of as policy alternatives that a teacher or school administrator may adopt given the results of their or their staffs’ TAHS assessment. The alternatives presented here are based on literature that suggests that these are viable and proven practices for meeting these purposes. That is, these alternatives are potential solutions to eliminate negative teacher attitudes toward homeless students as a barrier to their education.

Teacher and Staff Sensitivity Training

The first course of action incorporates teacher and staff sensitivity and awareness training as a means to address the lack of understanding of and prejudiced perceptions toward homeless students. This alternative could include direct sensitivity and awareness training for school personnel, including increasing awareness of the need for emotional and academic support for students. It could also include professional development that incorporates building better understandings of homeless student needs and McKinney-Vento Act provisions, as well as school and community services for homeless students and families (Stronge, 2000). This alternative could also set the stage for requiring this type of training in teacher education and certification programs.

As a component of the professional development process, teachers and staff could play an active role by building partnerships with state and district McKinney-Vento liaisons at the school...
level. Teachers could also form a collaborative study and action team with others in the school district and engage university faculty and state education personnel in the process (Swick, 2000). Such active partnerships have proven to enlighten faculty and staff about critical issues and strategies and have expanded teachers’ understandings of and involvement with homeless students and families (Swick, 1996). Schools could choose to implement all or various components of this policy alternative, but are encouraged to include the sensitivity and awareness training.

This policy alternative has great potential for ameliorating teachers’ negative prejudiced attitudes. However, there is a lack of extensive empirical data investigating the effectiveness of a comprehensive training program, such as this, as it relates to teacher attitudes. Nevertheless, intuitively this alternative is likely to have the greatest direct impact on teachers’ attitudes and is most likely to satisfy the criterion of ameliorating teachers’ negative prejudiced attitudes. With this solution, teachers would receive direct training in an attempt to eliminate any negative prejudiced attitudes that they may have and this could be implemented on a single or school-wide basis given the unique needs of the teacher or school.

Public Awareness Program

The next policy alternative entails creating a collaborative public awareness program combining school efforts with the community outside of the school, parents of non-homeless students, and non-homeless peers within the school. This is another promising practice supported by the literature for its influence in creating equal educational opportunities for homeless students since the community, the peers of homeless students and the parents of non-homeless students may all impact the educational experience of homeless students.
For example, building awareness and support in the community through collaborative efforts can enhance the power of staff and student involvement in supporting homeless students (Quint, 1994). Collaboration between schools and local social service and education agencies can help inter-agency and community policies related to services and supports for homeless students be changed and adapted more easily (Quint, 1994). Collaboration can also lead to better coordination and accessibility of needed support services for homeless students (Pawlas, 1994).

Within schools, the peers of homeless students are critical to developing an effective school and community environment (Swick, 2000). Select students can also serve in leadership roles in the school and community in educating others about the issues involved in being homeless (Swick & Graves, 1993). These students can provide support to individual students who are homeless; encourage other students to include homeless students in peer activities; initiate school-wide awareness activities on the needs of the homeless; and engage others in the school environment in becoming more supportive of students who have special needs (Swick, 2000). Other aspects of this solution could entail educating community members, parents of non-homeless students, and non-homeless students about the sensitive needs of homeless students. These education sessions could also include holding face-to-face meetings and focus groups with key constituents in the community, such as McKinney-Vento liaisons and staff at social service agencies.

Although this solution has many proven positive outcomes, these outcomes do not directly relate to eliminating negative teacher attitudes toward homeless students. However, some of these promising practices may indirectly affect teacher attitudes by creating a more supportive school environment and gaining their involvement with the public awareness program, but there is a lack of empirical evidence for these outcomes.
Securing Parental Involvement and Support

This policy alternative emphasizes the need for and ways that teachers can gain the involvement and support of parents of homeless students. Although many homeless parents are too preoccupied securing basic needs for their family to effectively advocate for their children’s educational needs, parents of homeless students often recognize the importance of education for long-term success and typically are not lacking in concern and aspirations for their children (Yon & Sebastien-Kadie, 1994; Stronge & Hudson, 1999). Given that family members play a vital role in supporting the development of their children through modeling behavior, teaching competency, and facing challenges (Reed-Victor & Stronge, 1997), teachers and parents need to form partnerships. Together with the help of teachers and school liaison personnel (i.e., social workers, guidance counselors) parents of homeless children can help homeless students gain better access to and succeed in school. This partnership may also help to ameliorate teachers’ negative attitudes by allowing teachers to gain insight into the authentic situations of children and parents who are homeless (Powers-Costello & Swick, 2009). As Swick (1996) found, when teachers visited shelters, interacted with people who were helping homeless families, and became involved in service learning activities in programs that serve homeless families, these teachers transformed their views of the homeless. Often teachers realized that they had held unfounded attitudes toward children who were homeless.

In order to meet the dual objective of forming teacher-parent partnerships as well as positively influence teachers’ perceptions of homeless students, this solution incorporates many components. First, this solution includes actions taken by the school staff to inform families of rights and responsibilities to education for their children; building awareness of the importance of school continuity; clarifying availability of school-based support services and supplies;
fostering positive and consistent communication with parents; building trust between parents and school staff; demonstrating how parents can assist with school work; providing suggestions for how parents serve as potential role models for their children; providing training to parents that includes parenting skills, preventing or overcoming substance abuse, availability of community services, improving parents’ basic skills, and discipline techniques (Stronge, 2000). The direction of these actions should be primarily toward homeless families, but can also extend to all families and have a far-reaching benefit.

Additionally, this solution can include efforts by the teacher to develop an awareness of the challenges and situations experienced by homeless children and families, as advocated for by Powers-Costello and Swick (2009). As these authors note, developing this awareness can be supported through several means, including teacher-developed study groups where early childhood teachers acquire and share knowledge and experience related to homelessness among children (Swick, 1996). Other means include becoming engaged in service-learning roles with shelters and other groups that serve children and families (Erickson and Anderson, 1997); mentoring and tutoring (Swick, 2000); using liaison roles to weave together more supportive school and community settings (Swick, 2000); using action research projects to explore the needs and possible solutions to the issues experienced by homeless students (Swick, 1996); among others described elsewhere (see Powers-Costello and Swick, 2009). These strategies all seek to enrich teachers’ understandings of various situations homeless students experience so that teachers can develop more sensitive and responsive relations with these children.

The above strategies mentioned throughout this policy alternative description are based on literature that supports this alternative as a viable option to improve educational opportunities for homeless students and to ameliorate teachers’ negative attitudes toward them. However the
effectiveness of this alternative may depend on prior training for teachers who harbor negative attitudes toward homeless students given that it is difficult to imagine that teachers who have negative attitudes of homeless students would be willing to work with their homeless parents without some type of prior training or intervention. Therefore, this course of action may be most effective if combined with the first course of action described above, which included teacher and staff sensitivity and awareness training.

**Recommendation**

This appendix has presented three different, yet complementary policy alternatives as a means to addressing negative teacher attitudes toward homeless students and improving the educational opportunities of homeless students. A final recommendation to practitioners in the field builds upon the last point made in the previous section: that these alternatives are not stand-alone solutions, but rather are most likely to be successful if implemented jointly.

Although the first alternative directly relates to the objective of ameliorating negative teacher attitudes toward homeless students, evidence suggests that sensitizing the school staff may not be enough; rather, educating community members and parents of non-homeless students may be necessary (Anderson et al., 1995). Therefore, the final recommendation is to promote all three alternatives within schools serving homeless students. For the average school the combined fiscal cost of the alternatives is relatively inexpensive and should not be a prohibiting factor for any school. Overall, the combined benefit and potential impact of all three alternatives far outweigh any implementation expenditures or efforts, and therefore every effort should be made to implement all three policy alternatives.
Email to Participants

Dear Teacher,

My name is Jessica Brown and I am a graduate student in the Educational Research, Measurement and Evaluation Ph.D. program at Boston College. You are being contacted because of your willingness to participate with online studies associated with the Center for the Study of Testing, Evaluation, and Education Policy and the inTASC groups at Boston College.

I am currently conducting research for my dissertation and I would appreciate your participation. The purpose of this project is to investigate teacher’s perceptions about homeless students. The survey is online and will take about 20-30 minutes of your time. Although I realize this may be a lot to ask, you will be contributing to valuable research as well as helping me, as a student, complete my degree. You will also have the opportunity to enter into a raffle contest to win a new iPad2, or one of two new Amazon Kindles. You will have better than a 1 in 2,000 chance of winning the raffle, which will take place in the fall.

To participate, you must be at least 18 years old and currently working as a public school teacher. If you would like to participate, simply click the link below or copy and paste it into your web browser, and you will be directed to the online survey site. The survey collection period is open from today, [DATE], through [DATE]. Please complete the survey during this time.

If you have questions or concerns regarding this research you may contact me at [###-###-#### or email@bc.edu].

Please use this link to begin the survey: Start Survey If you are having trouble with the link above, please copy and paste this link into your browser: [LINK]

Thank you in advance,

Jessica
Landing Page of Survey

Welcome to the Teacher Attitudes toward Homeless Students Survey!

The purpose of this project is to investigate teacher’s perceptions about homeless students. The survey is online and will take about 20-30 minutes of your time. Although I realize this may be a lot to ask, you will be contributing to valuable research as well as helping me, as a student, complete my degree. You will also have the opportunity to enter into a raffle contest to win a new iPad2, or one of two new Amazon Kindles. You will have better than a 1 in 2,000 chance of willing the raffle, which will take place in the fall. Otherwise you will not be compensated for the time you take to complete this survey. There are no costs to you associated with your participation.

Every effort will be made to keep this research completely confidential through the use of a secure online survey tool. You name will not be used, released to anyone else, or connected to your responses. However your email address will be collected, separately from your responses, if you wish to enter into the raffle. The study may include minimal risks, including emotional discomfort in answering difficult questions. Your participation is voluntary. If you choose not to participate it will not affect your relations with Boston College. You are free to withdraw or skip questions for any reason. There are no penalties for withdrawing or skipping questions, but you must provide your email address in the last question if you wish to be entered into the raffle.

To participate, you must be at least 18 years old and currently working as a public school teacher. The survey collection period is open from today, [DATE], through [DATE]. Please complete the survey during this time.

If you have questions or concerns regarding this research you may contact the Principal Investigator at [###-###-#### or email@bc.edu]. If you have questions about your rights as a research participant, you may contact the Office for Research Protections, Boston College, at 617-552-4778 or irb@bc.edu. This study was reviewed by the Boston College Institutional Review Board and its approval was granted on July 18, 2011.

I have read about the study and I understand the possible risks and benefits of this study. I know that being in this study is voluntary and I can stop at any time. I choose to be in this study. If you agree to the statements above and agree to participate in this study, please press the “Consent Given” button below.

Thank you in advance,

Jessica

This study is sponsored, in part, by the Lynch School of Education at Boston College.
APPENDIX E: SOCIAL DESIRABILITY SCALE

The following items (1-10) are from Strahan and Gerbasi’s (1972) ten-item scale, which was adapted from Crowne and Marlowe’s full scale (1964). High scores on this scale reflect a tendency to provide socially desirable answers. Items 1-5 were coded so that a response of True (1 point) reflected a socially desirable answer; items 6-11 were coded so that response of False (1 point) reflected a socially desirable answer. Scores ranged from 0-10; those above eight were deemed high and were excluded from analyses in this study.

Item 11 was written specifically for the TAHS assessment. Although it was not used in this study, it could be used in the future as one of the potential “flag” item in the TAHS assessment. The flag items provide an indication of whether a respondent has a negative attitude toward homeless students.

1. I never hesitate to go out of my way to help someone in trouble.
2. I have never intensely disliked anyone.
3. When I don't know something I don't at all mind admitting it.
4. I am always courteous, even to people who are disagreeable.
5. I would never think of letting someone else be punished for my wrong doings.
6. There have been times when I felt like rebelling against people in authority even though I knew they were right.
7. I can remember "playing sick" to get out of something.
8. There have been times when I was quite jealous of the good fortune of others.
9. I am sometimes irritated by people who ask favors of me.
10. I sometimes feel resentful when I don't get my way.
11. I sometimes wish that I didn’t have to teach homeless students.
APPENDIX F: DEMOGRAPHIC & CONTEXTUAL ITEMS

1. Are you male or female?
   a. Male
   b. Female

2. What is your age?
   a. 18-21
   b. 22-25
   c. 26-30
   d. 31-40
   e. 41-50
   f. 51-60
   g. 61 or over

3. What is the highest level of education you have completed?
   a. Some College
   b. 2 Year College Degree (Associates)
   c. 4 Year College Degree (BA, BS)
   d. Master’s Degree
   e. Doctoral Degree
   f. Professional Degree (JD, MD)
   g. Other: Specify_____

4. How many years teaching experience do you have?
   a. 0-5
   b. 6-10
   c. 11-15
   d. 16-20
   e. 21-25
   f. 26 years or more

5. What grade level do you teach?
   a. 1st
   b. 2nd
   c. 3rd
   d. 4th
   e. 5th
   f. 6th
   g. 7th
   h. 8th
   i. High School
   j. Other: Specify_____

6. In my teaching experience I have taught homeless students:
a. No  
b. Yes (indicate # of homeless students taught)  
   i. 1-5  
   ii. 6-10  
   iii. 11-20  
   iv. 21-30  
   v. 31-50  
   vi. 51 or more  

7. I have had in-service training on the needs of homeless children.  
   a. Yes  
   b. No  
   c. I do not know  

8. Are you Hispanic? (of Hispanic, Latino, or Spanish origin)  
   a. Yes  
   b. No  

9. What is your race?  
   a. White  
   b. African American  
   c. Asian/Pacific Islander  
   d. American Indian/Alaska Native  
   e. Other: Specify_________  

10. What region best describes the area where you live?  
    a. Northeast  
    b. Southeast  
    c. Midwest  
    d. Southwest  
    e. West  

11. What is your religious affiliation?  
    a. Protestant Christian  
    b. Roman Catholic  
    c. Evangelical Christian  
    d. Jewish  
    e. Muslim  
    f. Hindu  
    g. Buddhist  
    h. Non-religious  
    i. Other: (specify_______)  

12. What is your own yearly income?  
    a. Less than $10,000  
    b. $10,000-$19,999
c. $20,000-$29,999
d. $30,000-$39,999
e. $40,000-$49,999
f. $50,000-$59,999
g. $60,000-$69,999
h. $70,000-$79,999
i. $80,000-$89,999
j. $90,000-$99,999
k. $100,000-$149,999
l. $150,000 or more
APPENDIX G: SYNTAX & COMMANDS

This appendix includes the syntax and commands for the complex data analyses, including reliability, factor, and item-response theory analyses. Commands for less complex analyses are not included, such as descriptive analyses or correlations. The syntax and commands presented here include the items for the final attitudes and knowledge scales from the Phase 3 data collection, yet similar analyses were carried out for the Phase 2 data.

Classical Test Theory Analyses

Reliability Analyses (SPSS)

*TAHS Attitudes Scale.

RELIABILITY
/VARIABLES= Q2r Q3 Q5 Q9a Q9c Q9d Q9e Q10dr Q10jr Q104r Q110r Q10kr Q113r Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/SCALE('All Attitude Items') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL MEANS VARIANCE.

*Knowledge scale.

RELIABILITY
/VARIABLES=Q51 Q54 Q55 Q58 Q59 Q60d Q60e
/SCALE('Knowledge') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL MEANS VARIANCE.

Item Response Theory Analyses

Theorized & Observed Rankings Comparison (SPSS)

*Note: The variables “VarNameT_D1” and “VarNameO_D1” represent generic variable names for each of the dimensions of the TAHS scale; the variables include both the theorized(VarNameT_D1) and observed (VarNameO_D1) numeric rankings of a specific dimension. This command was carried once for each dimension.

NONPAR CORR
/VARIABLES=VarNameT_D1 VarNameO_D1
/PRINT=SPEARMAN TWOTAIL NOSIG
/MISSING=PAIRWISE.
TAHS Attitudes Scale (Winsteps)

&INST
Title= "TAHS_Phase3.sav"
; SPSS Cases processed = 177
; SPSS Variables processed = 181
ITEM1 = 1 ; Starting column of item responses
NI = 47 ; Number of items
NAME1 = 49 ; Starting column for person label in data record
NAMLEN = 4 ; Length of person label
XWIDE = 1 ; Matches the widest data value observed
CODES = 12345. ; matches the data
TOTALSCORE = Yes ; Include extreme responses in reported scores
; Person Label variables: columns in label: columns in line
@ID = 1E3 ; $C49W3 ; Respondent ID
&END ; Item labels follow: columns in label
Q2R ; I feel uneasy when I interact with homeless people, recoded ; Item 1: 1-1
Q3 ; I would feel comfortable eating a meal with a homeless person ; Item 2: 2-2
Q6R ; I do not want to work with homeless students, recoded ; Item 3: 3-3
Q5 ; I would feel comfortable working with homeless children and families ; Item 4: 4-4
Q9A ; For the most part, the plight of a homeless student's family has to do with : a lack of affordable housing ; Item 5: 5-5
Q9C ; For the most part, the plight of a homeless student's family has to do with : unemployment ; Item 6: 6-6
Q9D ; For the most part, the plight of a homeless student's family has to do with : the foreclosure crisis ; Item 7: 7-7
Q9E ; For the most part, the plight of a homeless student's family has to do with : difficulty earning a living wage ; Item 8: 8-8
Q10DR ; Homeless people, such as single adults, are homeless because they : are mentally ill, recoded ; Item 9: 9-9
Q10JR ; Homeless people, such as single adults, are homeless because they : are poorly educated, recoded ; Item 10: 10-10
Q10KR ; Homeless people, such as single adults, are homeless because they : have a substance abuse problem, recoded ; Item 11: 11-11
Q10PR ; Parents in a homeless family are homeless because they : are mentally ill, recoded ; Item 12: 12-12
Q110R ; Parents in a homeless family are homeless because they : are poorly educated, recoded ; Item 13: 13-13
Q113R ; Parents in a homeless family are homeless because they : have a substance abuse problem, recoded ; Item 14: 14-14
Q20A ; In general, homeless students have the ability to do well on standardized tests ; Item 15: 15-15
Q20B ; In general, homeless students can perform well academically ; Item 16: 16-16
Q20CR ; In general, homeless students behave poorly in the classroom, recoded ; Item 17: 17-17
Q20DR ; In general, homeless students are slower to improve their behavior than other students, recoded ; Item 18: 18-18
Q20FR ; In general, homeless students are hyperactive, recoded ; Item 19: 19-19
Q20HR ; In general, homeless students do not care about their academic achievement, recoded ; Item 20: 20-20
Q18 ; Students who are homeless at a young age have a good chance at graduating from high school ; Item 21: 21-21
Q19 ; Students who become homeless in high school are unlikely to graduate ; Item 22: 22-22
Q21 ; I am aware of support services in the school system for homeless students ; Item 23: 23-23
Q22 ; If I suspect a child is homeless I know who the appropriate person is to contact ; Item 24: 24-24
Q23 ; As a teacher, I should learn more about homeless students ; Item 25: 25-25
Q27 ; As a teacher, I should pay special attention to the academic needs of homeless students ; Item 26: 26-26
Q28 ; I feel confident in my skills and abilities to teach homeless students ; Item 27: 27-27
Q30A ; If I suspect a child is homeless I would contact : their parent(s) ; Item 28: 28-28
Q30B ; If I suspect a child is homeless I would contact : the principal ; Item 29: 29-29
Q30E ; If I suspect a child is homeless I would contact : the school district liaison ; Item 30: 30-30
Q30FR: If I suspect a child is homeless I would contact: - no one, recoded Item 31: 31-31
Q35A: I would be able to identify a homeless student in my class by: - poor hygiene. Item 32: 32-32
Q35B: I would be able to identify a homeless student in my class by: - trouble staying awake in class. Item 33: 33-33
Q35C: I would be able to identify a homeless student in my class by: - incomplete homework assignments. Item 34: 34-34
Q35D: I would be able to identify a homeless student in my class by: - hunger. Item 35: 35-35
Q35E: I would be able to identify a homeless student in my class by: - behavioral problems. Item 36: 36-36
Q37A: Barriers that homeless students face in education include: - lack of documents required for enrollment (e.g., previous school records). Item 37: 37-37
Q37B: Barriers that homeless students face in education include: - lack of evaluations for special education programs and other services. Item 38: 38-38
Q37C: Barriers that homeless students face in education include: - poor health. Item 39: 39-39
Q37D: Barriers that homeless students face in education include: - lack of evaluations for special education programs and other services. Item 40: 40-40
Q37E: Barriers that homeless students face in education include: - lack of sensitivity from school staff. Item 41: 41-41
Q37F: Barriers that homeless students face in education include: - negative attitudes from teachers. Item 42: 42-42
Q45A: A lack of permanent housing for homeless students: - puts them at an educational disadvantage. Item 43: 43-43
Q45B: A lack of permanent housing for homeless students: - puts them at risk of academic failure. Item 44: 44-44
Q44: - A homeless shelter or other temporary residence is not conducive to the educational needs of a homeless student. Item 45: 45-45
Q49: - It is important that schools are a nurturing environment for homeless students. Item 46: 46-46
Q36B: - Homeless students' needs include teachers who are sensitive to their situation. Item 47: 47-47

END NAMES
Knowledge Scale (Winsteps)

&INST
Title= "TAHS_Phase3.sav"
; SPSS Cases processed = 177
; SPSS Variables processed = 181
ITEM1 = 1 ; Starting column of item responses
NI = 7 ; Number of items
NAME1 = 9 ; Starting column for person label in data record
NAMLEN = 4 ; Length of person label
XWIDE = 1 ; Matches the widest data value observed
; GROUPS = 0 ; Partial Credit model: in case items have different rating scales
CODES = 012. ; matches the data
TOTALSCORE = Yes ; Include extreme responses in reported scores
; Person Label variables: columns in label: columns in line
@ID = 1E3 ; $C9W3 ; Respondent ID
&END ; Item labels follow: columns in label
Q51 ; -Homeless students come from mostly single-parent families. ; Item 1 : 1-1
Q54 ; -Students living in “doubled up” situations, where they reside in another
; individual/family’s home due to financial hardship, are legally considered homeless. ;
Q55 ; -Public schools are legally mandated to enroll every student even if the student
; is not able to produce records required for enrollment, (e.g. immunization records). ;
Q58 ; -Homeless students have the right to attend school, no matter where they live or
; how long they have lived there. ; Item 4 : 4-4
Q59 ; -Local Education Agencies (i.e. school districts) are required to have a local
; homeless liaison to help with the enrollment and success of homeless students in
; school. ; Item 5 : 5-5
Q60D ; Children are considered homeless if they live:-with relatives or friends
; because of financial hardship. ; Item 6 : 6-6
Q60E ; Children are considered homeless if they live:-with parents and other relatives
; because of financial hardship. ; Item 7 : 7-7
END NAMES

.... 1
.... 2
.... 3
.... 4
.... 5
0212122  6
1012100  7
0222111  8
0222100  9
2002022 10
2222222 11
2222222 12
0012200 13
0102000 14
0212222 15
2222116 16
0202222 17
0002100 18
1112120 19
1002100 20
0222222 21
1222111 22
0112120 23
0222222 24
2222220 25
0122200 26
1212222 27
2222200 28
1112111 29
1122200 30
2002122 31
1221220 32
001202 33
0102200 34
0212221 35
2022000 36
Validation Analyses

First-Order Factor Analyses (SPSS)

*TAHS attitudes scale; extract factors with eigenvalues >1.

FACTOR
/VARIABLES Q2r Q3 Q5 Q9a Q9c Q9d Q9e Q10dr Q10jr Q104r Q110r Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/MISSING PAIRWISE
/ANALYSIS Q2r Q3 Q5 Q9a Q9c Q9d Q9e Q10dr Q10jr Q104r Q110r Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/PRINT INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION UNIVARIATE
/FORMAT BLANK (.30)
/PLOT EIGEN ROTATION
/Criteria MINEIGEN (1) ITERATE(500)
/EXTRACTION PAF
/Criteria ITERATE(500)
/ROTATION PROMAX(4)
/METHOD = CORRELATION.

*TAHS attitudes scale; extract 8 factors.

FACTOR
/VARIABLES Q2r Q3 Q5 Q9a Q9c Q9d Q9e Q10dr Q10jr Q104r Q110r Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/MISSING PAIRWISE
/ANALYSIS Q2r Q3 Q5 Q9a Q9c Q9d Q9e Q10dr Q10jr Q104r Q110r Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/PRINT INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION UNIVARIATE
/PLOT EIGEN ROTATION
/Criteria FACTORS (8) ITERATE(100)
/EXTRACTION PAF
/Criteria ITERATE(100)
/ROTATION PROMAX(4)
/METHOD = CORRELATION.

Second-Order Factor Analysis (SPSS)

*TAHS attitudes scale: Set up files for Second-order factor analysis with 8 factors*

OMS
/SELECT TABLES
/IF COMMANDS = ["Factor Analysis"]
SUBTYPES = ["Factor Correlation Matrix"]
/DESTINATION FORMAT = SAV
OUTFILE = "Path name for where file should be saved".

210
FACTOR
/VARIABLES Q2r Q3 Q5 Q9c Q9d Q9e Q10dr Q104r Q10jr Q11or Q18 Q19r Q20a Q20b Q20cr Q20dr Q20fr Q20hr Q21 Q22 Q23 Q27 Q28 Q30a Q30b Q30e Q35a Q35b Q35c Q35d Q35e Q37a Q37c Q37e Q37f Q37g Q37i Q44 Q45b Q45a
/MISSING PAIRWISE
/PRINT INITIAL DET KMO EXTRACTION ROTATION
/FORMAT BLANK (.20)
/Criteria FACTORS(8) ITERATE(100)
/EXTRACTION PAF
/Criteria ITERATE(100)
/Rotation PROMAX(4)
/Method=CORRELATION.

OMSEND.
GET FILE='Path name where file was saved'.
RENAME VARIABLES (@1=factor_1) (@2=factor_2) (@3=factor_3) (@4=factor_4)
(@5=factor_5) (@6=factor_6) (@7=factor_7) (@8=factor_8).
STRING ROWTYPE_ (a8) VARNAME_ (a8).
COMPUTE ROWTYPE_='CORR'.
COMPUTE VARNAME_='factor_1'.
IF $CASENUM=2 VARNAME_='factor_2'.
IF $CASENUM=3 VARNAME_='factor_3'.
IF $CASENUM=4 VARNAME_='factor_4'.
IF $CASENUM=5 VARNAME_='factor_5'.
IF $CASENUM=6 VARNAME_='factor_6'.
IF $CASENUM=7 VARNAME_='factor_7'.
IF $CASENUM=8 VARNAME_='factor_8'.
EXECUTE.

***Next manually add a case to the data file. Insert this case before *the other cases. It should have "N" for the ROWTYPE_ variable, nothing for the *VARNAME_ variable, and for each of the factor_ variables the N from the original factor analysis. Then run the SAVE command.

SAVE OUTFILE='Path name for where file should be saved'
/KEEP=ROWTYPE_ VARNAME_ factor_1 to factor_8.

*Second-order factor analysis command.

GET
   FILE='Path name from above where file was saved'.
DATASET NAME DataSet3 WINDOW=FRONT.

*extracts eigenvalues >1.
FACTOR /MATRIX=IN(COR='Path name')
/PRINT INITIAL DET KMO EXTRACTION ROTATION
/FORMAT BLANK (.20)
/Criteria MINEIGEN(1) ITERATE(50)
/EXTRACTION PAF
/Rotation PROMAX(4).

*extracts only one factor.
FACTOR /MATRIX=IN(COR='Path name')
/PRINT INITIAL DET KMO EXTRACTION ROTATION
/Criteria FACTORS(1) ITERATE(50)
/EXTRACTION PAF
Residual Factor Analysis (SPSS)

*TAHS attitudes scale factor analysis for score residuals from Rasch Ifile.

FACTOR
   /VARIABLES z1 z2 z4 z5 z6 z7 z8 z9 z10 z11 z12 z13 z14 z15 z16 z17 z18 z19 z20 z21 z22 z23 z24 z25 z26 z27 z28 z29 z30 z32 z33 z34 z36 z37 z38 z39 z40 z41 z42 z43 z44 z45
   /MISSING PAIRWISE
   /ANALYSIS z1 z2 z4 z5 z6 z7 z8 z9 z10 z11 z12 z13 z14 z15 z16 z17 z18 z19 z20 z21 z22 z23 z24 z25 z26 z27 z28 z29 z30 z32 z33 z34 z36 z37 z38 z39 z40 z41 z42 z43 z44 z45
   /PRINT UNIVARIATE INITIAL DET KMO EXTRACTION ROTATION
   /FORMAT SORT BLANK(.30)
   /PLOT EIGEN ROTATION
   /CRITERIA MINEIGEN(1) ITERATE(100)
   /EXTRACTION PC
   /CRITERIA ITERATE(100)
   /ROTATION VARIMAX
   /METHOD=CORRELATION.

Regression Analyses

Research Question 2 (SPSS)

REGRESSION
   /DESCRIPTIVES MEAN STDDEV CORR SIG N
   /MISSING PAIRWISE
   /STATISTICS COEFF OUTS R ANOVA CHANGE ZPP
   /CRITERIA=PIN(.05) POUT(.10)
   /NOORIGIN
   /DEPENDENT measure
   /METHOD=ENTER gender2
   /METHOD=ENTER race2 race3 race4 race5
   /METHOD=ENTER yrs_teach2
   /METHOD=ENTER hmls_taught2
   /METHOD=ENTER trained2