

CAMP COUNSELORS WORKING WITH  
CHRONICALLY ILL CHILDREN

A Dissertation

by

SAMUEL E. FIALA

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of  
DOCTOR OF PHILOSOPHY

December 2005

Major Subject: Psychology

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## ABSTRACT

Camp Counselors Working with Chronically Ill Children. (December 2005)

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A growing body of empirical evidence suggests that attending specialized summer camps is beneficial for chronically ill youth (Briery & Rabian, 1999). However, there is some inconsistency across studies regarding these benefits (Hazzard & Angert, 1986). One potential explanation for these differences across camps is that they may differ in how well they recruit and train effective volunteer camp counselors. This possibility cannot be explored until more research is conducted identifying what type of person volunteers to work with chronically ill children and how they differ from others.

In response to this gap in the research literature, the present study was conducted to examine characteristics of volunteer camp counselors ( $n = 72$ ), a group of nonvolunteers ( $n = 325$ ), and a group of volunteer mentors ( $n = 194$ ). Guided by Omoto and Snyder's (1990) volunteer process model, the investigation explored how counselors differed from others in terms of dispositional variables, knowledge, and experience; and the relation between these individual characteristics and ratings of counselor efficacy was explored. Changes in counselors' knowledge of and/or attitudes toward chronically ill children after their camp experience were also examined.

Results suggest that camp counselors differ from others in terms of dispositional characteristics (e.g., attachment style), knowledge, and experience. Specifically, counselors displayed higher levels of agreeableness, greater attachment security, more knowledge of chronic illness, and greater experience with chronic illness than nonvolunteers. Efforts to predict which counselors would be rated as most effective were unsuccessful. Counselors' knowledge of illness increased over the course of their camp experience.

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## TABLE OF CONTENTS

	Page
ABSTRACT .....	iii
ACKNOWLEDGMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	viii
LIST OF FIGURES .....	ix
INTRODUCTION .....	1
Camps for Children with Chronic Illnesses.....	3
Who Are These Counselors?.....	7
Who Are the Best Counselors? .....	15
Do Knowledge and Attitudes Change? .....	17
Summary of Hypotheses.....	18
METHOD.....	19
Participants.....	19
Measures.....	22
Procedure.....	27
RESULTS.....	29
Comparisons of Counselors and Nonvolunteers.....	29
Comparisons of Counselors and Mentors.....	36
Predicting Efficacy.....	40
Changes in Attitudes and Knowledge .....	42
CONCLUSION .....	43
Comparisons of Counselors and Nonvolunteers.....	43
Comparisons of Counselors and Mentors.....	48
Predicting Efficacy.....	48
Changes in Counselors .....	49
Limitations.....	49
Implications .....	51

	Page
Summary and Conclusions .....	53
REFERENCES .....	54
APPENDIX A .....	67
APPENDIX B.....	69
APPENDIX C.....	71
APPENDIX D .....	74
APPENDIX E.....	77
APPENDIX F .....	79
APPENDIX G .....	82
APPENDIX H .....	85
VITA.....	98

## LIST OF TABLES

TABLE	Page
1 Demographic Variables .....	21
2 Descriptive Statistics for All Time 1 Variables .....	31
3 Discriminant Function Analysis Classifying Counselors and Nonvolunteers Using Dispositional Variables .....	33
4 Discriminant Function Analysis Classifying Counselors and Nonvolunteers Using Knowledge, Beliefs, and Experience .....	35
5 Discriminant Function Analysis Classifying Counselors and Mentors Using Dispositional Variables .....	38
6 Bivariate Correlations Among Efficacy Ratings and Antecedent Variables..	41

## LIST OF FIGURES

FIGURE	Page
1 The volunteer process model.....	2
2 Descriptors for Big Five personality traits .....	23
3 Modified theory of planned behavior.....	47

## INTRODUCTION

Summer camp experiences for children and adolescents with chronic illnesses have a long history, yet researchers have only recently begun to document the benefits children receive from these experiences (e.g., Briery & Rabian, 1999; Thomas & Gaslin, 2001). However, researchers have not focused on the camp counselors who voluntarily give of their time and energy to make the camp experience possible for these youth. Although researchers have not yet studied this unique population, the growing body of research on *volunteerism* may provide some guidance in identifying what are important empirical and practical questions to be asked about these volunteers.

The most comprehensive and best researched theoretical model of volunteerism is Omoto and Snyder's (1990) volunteer process model (Davis, Hall, & Meyer, 2003; Omoto & Snyder, 1995; Penner & Finkelstein, 1998; Snyder & Omoto, 2001). They drew upon theory and research findings from a variety of sources to formulate a 3-stage model of volunteerism that examines the antecedents, experiences, and consequences of volunteering at multiple levels (i.e., individual volunteer, volunteer organization, and the broader social system). The present study focused primarily on questions about individual volunteers in the antecedent stage of the model. Omoto, Snyder, and Berghuis (1993, p. 343) identify the primary goals of research at this stage as "(a) identify personality, attitudinal, and motivational characteristics of volunteers; (b) build on this knowledge to develop maximally effective strategies for recruiting and training

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This dissertation follows the style of *Social Science & Medicine*.

volunteers; and (c) discover antecedent factors that predict who successfully completes volunteer programs and who becomes an effective and satisfied volunteer.” A visual summary of the volunteer process model is provided in Figure 1.

<b>Stages of the Volunteer Process Model</b>			
<b>Level of Analysis</b>	<i>Antecedents</i>	<i>Experiences</i>	<i>Consequences</i>
<i>Organization or agency</i>	<ul style="list-style-type: none"> <li>○ Recruitment</li> <li>○ Training</li> </ul>	<ul style="list-style-type: none"> <li>○ Task assignment</li> <li>○ Tracking of volunteers</li> <li>○ Service delivery</li> </ul>	<ul style="list-style-type: none"> <li>○ Quantity &amp; quality of services provided</li> <li>○ Absenteeism, turnover, &amp; reenlistment</li> <li>○ Goals met</li> </ul>
<i>Individual volunteer</i>	<ul style="list-style-type: none"> <li>○ Demographics</li> <li>○ Previous experiences</li> <li>○ Personality &amp; individual differences</li> <li>○ Resources &amp; skills</li> <li>○ Motivations</li> <li>○ Expectations</li> <li>○ Social support from existing network</li> </ul>	<ul style="list-style-type: none"> <li>○ Role choice</li> <li>○ Performance</li> <li>○ Relationship with client</li> <li>○ Support from other volunteers</li> <li>○ Organizational integration</li> <li>○ Satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>○ Changes in knowledge, attitudes, &amp; behaviors</li> <li>○ Identity development</li> <li>○ Commitment to volunteering/ organization</li> <li>○ Evaluation of experience</li> <li>○ Length of service</li> </ul>
<i>Broader social system</i>	<ul style="list-style-type: none"> <li>○ Social &amp; cultural attitudes toward volunteerism</li> </ul>	<ul style="list-style-type: none"> <li>○ Effects on clients</li> <li>○ Effects on social networks of volunteers</li> </ul>	<ul style="list-style-type: none"> <li>○ Social diffusion</li> <li>○ Education of the public</li> <li>○ Systems of service delivery</li> </ul>

Figure 1. The Volunteer Process Model.

Consistent with the first of these goals, the present study examined volunteer camp counselors’ personality characteristics, attachment style, demographic attributes, and experience with, knowledge of, and attitudes toward children with a chronic illness.

Differences on these characteristics between counselors and two other groups (i.e., nonvolunteers and volunteers working with aggressive children) were examined. In line with the third research goal in the antecedent stage of the Omoto and Snyder (1990) model, the relation between these individual characteristics and ratings of counselor efficacy was explored. Finally, to address some of the questions posed in the third stage of the volunteer process model (i.e., consequences of volunteering), changes in counselors' knowledge of and/or attitudes toward chronically ill children after their camp experience were also explored.

These questions were addressed using data collected as part of the *Illness Management and Coping in Children Project*. In addition to examining camp counselors and their supervisors, this large-scale project involved collecting data from children with asthma or diabetes and their parents. Data collection involved multiple mailings and traveling to six different cities in two states over the course of two months. Some of the other research questions examined in this project included: (a) how accurately do children with asthma or diabetes perceive the severity of their symptoms?, (b) does family functioning vary as a function of illness demands of the child?, and (c) how does parent overprotectiveness relate to child social competence in ill children?

#### *Camps for Children with Chronic Illnesses*

As discussed earlier, there is a growing appreciation for the importance of examining volunteers in a variety of settings. The present study focused on camp counselors working with chronically ill children because of characteristics of the client population and of the volunteer population.

Reviews of the epidemiological data on chronic illness in children suggest that 10-15% of youth below 16 years of age have a chronic illness (Cadman, Boyle, Szatmari, & Offord, 1987; Gortmaker, 1985; Rutter, Tizard, & Whitmore, 1970; Weiland, Pless, & Roghmann, 1992). Ample evidence exists suggesting that this is an “at-risk” subpopulation in terms of social-emotional development (Liakopoulou, 1999; Lock, 1998; Strax, 1991; Wallander & Thompson, 1995). The most recent meta-analytic study of psychosocial adjustment in chronically ill youth indicated that this group on average experiences more internalizing problems as well as externalizing problems than children without such conditions (Lavigne & Faier-Routman, 1993). Similar findings exist in research focused specifically on children with asthma (Padur, Rapoff, Houston, & Barnard, 1995) or diabetes (Moussa et al., 2005).

As recognition of the special needs of these children has expanded, so has the number of specialized summer camps such as the one studied presently (Kiernan, Gormley, & MacLachlan, 2004). Specialized summer camp for chronically ill children is now a truly international phenomenon, with camps in America (Sillers et al. 1992), the United Kingdom (Kiernan et al., 2004), Japan (Mimura, 1994), China (Yan & Miao, 1989), Italy (Misuraca, Di Gennaro, Lioniello, Duval, & Aloï, 1996), and Turkey (Semiz, Bilgin, Bundak, & Bircan, 2000). Although significant diversity of goals exists among these many camps, they are unified in striving to provide a positive experience for the children to promote more adaptive physical and psychological functioning (Briery & Rabian, 1999; Kiernan et al., 2004; Silvers et al., 1992). Only recently have researchers begun to build the body of research that will answer whether or not these

goals are being met. Although much of this research has methodological limitations (e.g., no comparison group), which must be addressed in future research, the existing findings indicate that camp experiences have beneficial impacts on children with chronic illnesses.

Specifically, after attending camp, improved illness management (e.g., child's use of peak-flow meter or glucometer) has been demonstrated for children with asthma (Sorrells, Chung, & Schlumpberger, 1995; Lord, St. Leger, Ridge, & Elisha, 2001) and for children with diabetes (Misuraca et al., 1996; Semiz et al., 2000). Similarly, increased knowledge and acceptance of illness has been documented following attendance to asthma (Lord et al., 2001) and diabetes (Harkavy, 1983; Metroz-Dayer & Roulet, 1990; Misuraca et al., 1996; Semiz et al., 2000) camps. Further, children who attend asthma camps in the summer tend to show decreased urgent care visits and missed school days following their camp experience (Sorrells et al., 1995; Meng, Tiernan, Bernier, & Brooks, 1998; Fitzpatrick, Coughlin, & Chamberlin, 1992). Ample anecdotal data has emerged from parent reports suggesting that children with either of these conditions benefit from specialized summer camps (Misuraca et al., 1996; Punnett & Thurber, 1993; Silvers et al., 1992).

Despite these positive findings, it is difficult to draw definitive conclusions about the benefits of the camping experience for chronically ill children. In one study of a 2-week camp for children with asthma, the staff reported that the children appeared to reap many benefits from the experience, but comparisons of the children's post-camp survey responses with a control group indicated no differences in asthma knowledge, internal

health loci, or self-concept (Hazzard & Angert, 1986). Further, Harkavy et al.'s (1983) finding of increased diabetes knowledge following camp was limited to the older group of children in attendance. Lord et al. (2001) report that the post-camp increase in asthma knowledge they observed was no longer evident at 10-month follow-up, but Metroz-Dayer and Roulet (1990) reported that post-camp increases in diabetes knowledge were maintained at 1-year follow-up. Recent reviews of the literature have uniformly commented on the inconsistency of the pattern of results and the need for more rigorous research (Mancuso & Caruso-Nicoletti, 2003; Task Force on Community Preventative Services, 2002; Tumini, Anzellotti, & Chiarelli, 2003).

A variety of explanations are possible for this inconsistency, including methodological limitations of previous studies. One possibility that has not yet been considered is differences across camps in the types of counselors used. Perhaps some camps are more proficient at recruiting and training effective camp counselors than others. Researchers have written about the camp experience as a therapeutic environment (Kiernan et al., 2004) where ill children have the opportunity to work through issues of autonomy and self-reliance (Hamburg & Inoff, 1982), but little consideration has been given to who the therapeutic agents may be. Gaining a better understanding of who volunteers to work with these children and how they differ from others may well provide researchers with the missing piece of information that explains why children at some camps seem to benefit more than others.

In addition to gaining information with the potential to increase the efficacy of summer camps for children with chronic illnesses, illness-camp counselors were chosen

as the primary group of interest because of the prospective value of learning more about this group of individuals themselves. Anecdotal evidence gleaned from conversations with camp counselors following data collection in the present study suggested that many of these volunteers have an interest in working professionally in the healthcare field. Dr. Alan Rosenbloom, a physician who has been involved with diabetes camps for the past 35 years, reported that in 1999 almost half of the volunteers he recruited to work at diabetes camps were health professionals or health professionals in training (Rosenbloom, 2001). Based on his experiences he noted that many undergraduate students chose to enter the health-care field because of their camp experiences, and many medical students were similarly influenced to specialize in pediatric medicine. Perhaps volunteering at these camps provides some individuals with experiences and skills that better prepare them to provide optimal patient care later in their careers. If this is the case, learning more about these volunteers may have important implications for training of health-care professionals.

#### *Who Are These Counselors?*

The primary goal of the current study was to describe what types of individuals choose to volunteer their time to work as counselors at camps for chronically ill children and to examine how these individuals differ from others. Despite the dearth of past research examining the population of interest, speculation regarding defining characteristics of this group can be guided by previous research on volunteerism. Dispositional variables are thought to play a significant role in choosing to volunteer because of the lack of pressing situational constraints (cf., *spontaneous helping*:

Pillavin, Dovidio, Gaertner, & Clark, 1981; Darley & Latane, 1968). Moreover, volunteering is a planned behavior of relatively long duration associated with potential costs and not bound by prior obligations (Omoto & Snyder, 1995; Penner, 2002; Snyder & Omoto, 2001). Because of these aspects of volunteering that differentiate it from other forms of prosocial behavior, researchers have been trying for the last 40 years to understand what type of person chooses to volunteer by examining how volunteers differ from nonvolunteers or from the general population.

#### *Demographic Characteristics of Volunteers*

Comparisons of volunteers and nonvolunteers on demographic variables typically yield mixed results (Wilson & Musick, 1997). However, the finding that women are more likely to be interested in and to participate in volunteering than men is robust (Cohen, Schmida, & Ferman, 1985; Fitch, 1991; Serow, 1990; Thoits & Hewitt, 2001; Trudeau & Devlin, 1996). Also, some evidence exists that volunteerism is associated with higher levels of education and income (Penner, 2002; Thoits & Hewitt, 2001, Wilson & Musick, 1997). Evidence for differences in race or ethnicity between volunteers and nonvolunteers is equivocal, and when differences are observed they are typically accounted for by differences in socioeconomic status (Thoits & Hewitt, 2001).

In the present study, I predicted that there would be a greater representation of females among camp counselors than among nonvolunteers. Because the comparison samples were limited to college students, differences in income and education were not predicted.

### *Personality Characteristics of Volunteers*

Researchers have used a wide variety of measures and models of personality to examine personality attributes of volunteers (see Penner, 2002 for review). Many of these have attempted to develop conceptual models of the “altruistic” or “prosocial personality” (Allen & Rushton, 1983; Bales, 1996; Penner, Fritzsche, Craiger, & Freifeld, 1995) The present study focused on the 5-factor model (FFM; Costa & McCrae, 1992; Goldberg, 1993) to potentially increase the generalizability of any significant findings. The review of the literature on personality correlates of volunteering is, therefore, mapped onto the five dimensions of the FFM: (a) agreeableness, (b) extraversion, (c) openness, (d) conscientiousness, and (e) emotional stability (i.e., neuroticism).

*Agreeableness.* Several studies have demonstrated positive associations between volunteerism and characteristics that appear to reflect an agreeable personality trait, such as nurturance (Knapp & Holzberg, 1964; Turner, 1973), trust and acceptance of others (Spitz & MacKinnon, 1993), and view of self as “pleasant” (Cowen, Zax, & Laird, 1966). Also, in Sergent and Sedlacek’s (1990) study of the variability of personality characteristics among different volunteer groups, the group most similar to camp counselors (i.e., peer counselors) was characterized as the *Social type* according to Holland’s (1985) personality typology. A review of the description of Holland’s Social type (cooperative, friendly, helpful, kind, warm, etc.) reveals substantial overlap with the agreeableness trait.

The characteristic associated with agreeableness that has most consistently been shown to distinguish between volunteers and nonvolunteers is empathy (Davis et al., 1999; Unger & Thumulari, 1997; Allen & Rushton, 1983). In an unpublished set of data, Penner and Fritzsche (as cited in Penner et al., 1995) found that volunteers working with homeless families scored higher on the Other Oriented Empathy (OOE) component of the Prosocial Personality Battery (PPB; Penner et al., 1995) than nonvolunteers, and the OOE scores for a group of AIDS volunteers was positively related to the amount of time spent they spent volunteering (Penner & Finkelstein, 1998). Penner and Fritzsche (as cited in Penner et al. 1995) reported that this measure of empathy had a significant positive association with scores on the agreeableness scale of the Revised NEO Personality Inventory (NEO-PI-R, Costa & McCrae, 1992).

Elshaug and Metzger (2001) conducted the only study that directly examined the relation between agreeableness and volunteerism. They compared paid and volunteer workers doing the same job (food preparation) using the NEO-PI-R and found that volunteers scored higher on agreeableness than nonvolunteers and that, within the group of volunteers, higher levels of agreeableness were associated with more time spent volunteering. In the present study, I expected that camp counselors would show higher levels of agreeableness than nonvolunteers.

*Extraversion.* A second FFM trait often associated with volunteerism is extraversion. The results of this line of inquiry are somewhat mixed. Trudeau and Devlin (1996) predicted higher rates of introversion in volunteers but failed to find any relation between introversion-extraversion and volunteering. Knapp and Holzberg's (1964) study

of students working with mental patients found volunteers to have higher levels of introversion than the general population. These findings may be somewhat anomalous given the number of studies indicating volunteers are more extraverted. Three studies provide qualitative data that volunteers are more outgoing, sociable, and suited to making new friends (i.e., extraverted) than nonvolunteers (Mitchell & Shuff, 1995; Smith & Nelson, 1975; Spitz & MacKinnon, 1993). Other studies demonstrated higher rates of extraversion (as measured by the Myers-Briggs Type Indicator; Myers & McCaulley, 1985) in volunteers (Carlson & Levy, 1973; Mitchell & Shuff, 1995). Most convincing, Elshaug and Metzer (2001) demonstrated that volunteer food preparers scored higher on extraversion (as measured by the NEO-PR) than paid food preparers and that extraversion was related to length of volunteering. In the present study, I expected that counselors would have higher levels of extraversion than nonvolunteers.

*Openness.* Very little research exists on the relation of openness to volunteerism. Elshaug and Metzer (2001) hypothesized that volunteers would be higher in openness to experience than nonvolunteers. This would seem a reasonable expectation given that volunteering typically involves getting outside of one's comfort zone, but they found no differences in openness between volunteers and nonvolunteers. For the present study, I saw insufficient empirical evidence to justify a prediction about differences in openness among the groups studied.

*Conscientiousness.* Similar to openness, little research exists on conscientiousness as it relates to volunteerism. Howarth (1976) found that volunteers scored higher on a measure of "superego" than nonvolunteers. He interpreted this scale

as an indication of strength of one's conscience, and so it is possibly related to conscientiousness. Elshaug and Metzger (2001) did not find differences in conscientiousness between volunteers and nonvolunteers. For the present study, I saw insufficient empirical evidence to justify a prediction about differences in conscientiousness among the groups studied.

*Emotional stability.* Although Elshaug and Metzger (2001) failed to find differences in emotional stability between volunteers and nonvolunteers, some indirect evidence has emerged that would suggest volunteers have greater emotional stability. In fact, Allen and Rushton (1983), in their review of the literature on volunteers working in mental health settings, labeled one of the five recurring volunteer characteristics as *emotional stability* and another as *positive moods and attitudes*. Similarly, Thoits and Hewitt (2001) interpreted the literature on antecedents of volunteering to suggest that people with greater personal well being may volunteer more often because they have the psychological resources to do so. In support of this, Tapp and Spanier (1973) described volunteers as more "happy go lucky" than nonvolunteers, and two studies found lower levels of anxiety to be associated with volunteerism (Howarth, 1976; Trudeau & Devlin, 1996). In the present study, I predicted that counselors would have higher levels of emotional stability than nonvolunteers.

#### *Attachment Styles of Volunteers*

Bowlby's (1980) theory of attachment suggests that individuals have stable internal models of relationships that impact how they behave in relational contexts. Given that many volunteers acknowledge affiliative motives play a role in their decision

to volunteer (Abrami & Perry 1976; Serow, 1991), it is somewhat surprising that to date no published studies have examined whether volunteers differ from nonvolunteers in terms of attachment style. Avoidant and ambivalent attachments are based on a lack of trust and the experience of anxiety when faced with issues of interpersonal closeness (Kirkpatrick & Hazan, 1994). Secure attachments, in contrast, are characterized by trust and comfort with interpersonal closeness. Some evidence exists that volunteers may be characterized by secure attachment styles rather than avoidant or ambivalent styles. Volunteers working with people with AIDS have high expectations for the quality of relationships they will develop with those they serve before they meet (Omoto, Gunn, & Crain, 1998). Volunteers in some settings have been found to be more capable of intimacy than nonvolunteers (Fretz, 1979; Tapp & Spanier, 1973) and to be more trusting than nonvolunteers (Howarth, 1976).

Despite the limited evidence for differences in attachment style, a general pattern has developed in the volunteer literature that volunteers tend to be more psychologically healthy than nonvolunteers (Thoits & Hewitt, 2001). Consistent with this finding, I expected that counselors in the present study would show lower levels of ambivalence and avoidance.

#### *Knowledge, Attitudes, and Experiences of Volunteers*

According to Ajzen's theory of planned behavior (1985; 1991) the best predictor of a behavior is the intention to perform that behavior. Intention is predicted by a subjective analysis of the costs/benefits of the behavior (attitude); perceptions of how important others feel about the behavior (subjective norm); and perceptions of how able

one is to perform the behavior (perceived behavioral control). Thus, one might hypothesize that individuals who decide to volunteer to work as camp counselors with children who are chronically ill differ from others in three ways: (a) their perceptions of the potential costs and benefits of working with chronically ill kids, (b) the amount of social pressure they feel to give of their time to this particular group, and (c) their perceptions of how successful they can be in effectively working with ill children.

Based on the theory of planned behavior, individuals who had more positive attitudes toward children with chronic illness, would be more likely to perceive that the benefits of volunteering outweighed the costs than for those who had more negative attitudes. Also, considering potential influences of subjective norms, it seems likely that counselors would feel more pressure to work with an ill population if they or someone they knew suffered from the same chronic illness. A study of volunteer peer health educators' motivations indicated that experiences with family and friends did have an impact on their decisions to volunteer (Klein, Sondag, & Drolet, 1994). Third, counselors' perceived ability to successfully work with ill children is likely influenced by their previous experiences with children and with chronic illness and their knowledge of that illness. In the present study, I predicted that counselors would have greater illness knowledge and experience, more positive attitudes toward children with chronic illness, and greater experience with youth than nonvolunteers.

#### *Differences Among Volunteers*

Most of the research investigating defining characteristics of volunteers employed comparisons of volunteers versus nonvolunteers, but a growing appreciation

has evolved for the need to investigate possible differences among different groups of volunteers. According to person-environment fit theory (Holland, 1985), people and settings both have unique personalities. Individuals will seek out opportunities that enable them to make use of their unique abilities and to express themselves. Thus, different volunteer settings may evoke different types of volunteers.

Sergent and Sedlacek (1990) compared volunteers from four different service organizations and found distinct differences among these groups according to personality characteristics and motivations. Similarly, Omoto, Snyder, and Martino (2000) found motivational differences between younger adult volunteers and older adult volunteers, and Clary et al. (1998) suggested that AIDS volunteers were vastly different from individuals working in other environments. In contrast, Elshaug and Metzger (2001) found no differences between volunteer food preparers and volunteer fire fighters on any of the scales of the FFM. Given the lack of empirical study on differences among groups of volunteers, I made no directional predictions regarding differences between counselors and other volunteers (i.e., mentors) in the present study.

#### *Who Are the Best Counselors?*

A second aim of the current study is to identify individual characteristics of counselors that are predictive of efficacy. Scant research exists to guide predictions in this area. Two studies of counselors working with emotionally disturbed children identified personality variables of counselors related to measures of efficacy. Deysach, Ross, and Hiers (1977) found that counselors with a higher internal locus of control were given higher performance ratings by their supervisors. In Saunders and Papanikou's

(1970) study, children who worked with counselors who scored high on the Interest Scale (Mf) and the Hypochondriasis Scale (Hy) of the MMPI (form R) showed less behavioral improvement than children whose counselors had more gender-typical attitudes and fewer concerns about health. This relation between hypochondriasis and efficacy was also demonstrated by Burke and Hall (1986). These studies suggest, then, volunteers who tend to focus on their own somatic concerns tend to be rated poorly by supervisors.

In other studies of volunteers working with non-ill children, predictors of high performance ratings included positive attitudes toward the children (Summers, Shuster, & Shuster, 1969); flexibility, intelligence, and emotional stability (Herman & Usita, 1994); and normal thought processes and extraversion (Burke & Hall, 1986). Anecdotal evidence also suggests that counselors who have previously been campers themselves are very effective (Durkin, 1998).

Although a clear pattern of correlates has not emerged among dispositional variables and counselor efficacy, it generally appears that individuals who have more positive characteristics make better counselors. As such, I expected in the present study that higher ratings of efficacy would be given to counselors who are more open to experience, conscientious, extraverted, agreeable, emotionally stable, and secure in their relational attachment style. Further, counselors with more experience with children and chronic illness and greater knowledge of illness were expected to receive higher performance ratings.

### *Do Knowledge and Attitudes Change?*

The third and final goal of the present study was to investigate what impact the camping experience had on the counselors' attitudes toward the chronically ill children they worked with and their knowledge of the children's illness.

Although some studies have failed to find changes in volunteer attitudes toward the individuals they work with (Alper & Algozzine, 1977), the vast majority of findings indicate that volunteers experience increases in positive attitudes toward those they serve. This includes people working with individuals with mental illness (Holzberg & Gewirtz, 1963; Holzberg, Gewirtz, & Ebner, 1964; Youniss & Yates, 1997); underprivileged children (Hobfoll, 1980); children with emotional/behavioral problems (Cowen et al., 1966; Herr, 1975); and adults with disabilities (Miller et al., 2002). I expected that counselors in the present study would experience increases in positive attitudes toward children with chronic illnesses.

Although some research has been conducted on changes in patient's knowledge of illness following different educational programs (Creer, 1991; Harkavy, et al. 1983), extremely little data has been generated on changes in professionals', paraprofessionals', or volunteers' knowledge (Doherty, Hall, James, Roberts, & Simpson, 2000). An unpublished study by Omoto and Snyder (as cited in Snyder & Omoto, 2001) indicated that volunteers working with people with AIDS experienced increases in their knowledge about safer sex practices as a result of their volunteer experience. I predicted that counselors in the present study would learn more about the chronic illness they were working with during the course of volunteering.

### *Summary of Hypotheses*

I expected that there would be more female camp counselors than nonvolunteers and that the counselors would be more agreeable, extraverted, emotionally stable, and secure in their attachment style than nonvolunteers. Second, counselors were expected to have greater experience with and knowledge of chronic illness than nonvolunteers and to have more positive attitudes toward chronically ill children. Insufficient research exists to justify specific predictions of dispositional differences between counselors and other volunteers.

In addition, I expected that counselors who were more agreeable, conscientious, open, extraverted, emotionally stable, and secure in their attachment style would be rated as more effective. I also predicted greater knowledge of illness and greater experience with children and chronic illness would be positively related to ratings of counselor efficacy. Finally, I predicted that counselors would experience increases in knowledge of illness and improvements in attitudes toward ill children.

## METHOD

### *Participants*

The group of primary interest in the present study was comprised of 72 adults (65.6% women), who worked as counselors at summer camps for children who have either asthma or diabetes. The ethnic group makeup of this sample was 66.1% European-American, 20.3% African-American, 1.7% Latino, and 11.9% Asian-American. Data were also collected from 26 of their supervisors (76.9% women; 76.9% European-American; 7.7% African-American; 7.7% Latino). Counselors ranged in age from 18 to 43 years old ( $M = 23.63$ ,  $SD = 5.12$ ) and were mostly unmarried (81%). Approximately three fourths of the counselors had at least some college experience (77.6%) and were employed at least part-time (72.4%). All of these participants received a \$10 gift card for their participation in the study.

The four camps from which these counselors were recruited are in Texas and Oklahoma. Two of the camps hosted children with asthma, and the other two were for children with diabetes. All camps provided week-long camping experiences for boys and girls where trained medical personnel were available to provide appropriate medical care and some illness management education. Also common among the camps was the overarching goal of providing an encouraging atmosphere where children could have fun while learning to care for their special health needs. The two diabetes camps included children ages 8 to 16 years old and the children in the asthma camp were between 7 and 12 years old.

To provide a comparison group of nonvolunteers, data were collected from 325 undergraduate university students (57.5% women) recruited from introductory psychology classes. The ethnic group makeup of this sample was 82.3% European-American, 3.3% African-American, 10.8% Latino, and 3.6% Asian-American. Nonvolunteers ranged in age from 18 to 38 years old ( $M = 19.25$ ,  $SD = 1.85$ ) and were mostly unmarried (99.7%). All of them had some college experience, and most were unemployed (75.3%). These participants received course credit for their participation.

To establish a valid comparison group, qualitative data about these nonvolunteer participants' volunteer history were evaluated by three judges to determine if they met the criteria for volunteerism established by Snyder, Omoto, and Lindsay (2004). The majority of volunteer activities described (e.g., vacation Bible school, fundraising) failed to meet these criteria, primarily because of established bonds of obligation or the limited amount of time involved. Data from 17 comparison participants were excluded from the analyses (leaving  $n = 308$ ). Only those cases for which all three judges agreed that a case should be eliminated were removed (inter-rater reliability = 94%).

Archival data from a sample of 194 college students (86.1% women), from the same university as the nonvolunteer participants, who mentored aggressive children were included in some analyses to provide a volunteer comparison group. The ethnic group makeup of this sample was 86.1% European-American, 4.1% African-American, 7.4% Latino, and .8% Asian-American. The archival data set from which the mentor data were drawn did not identify the ages, marital status, educational background, or occupational status of these participants. However, it is likely that they were similar in

many of these respects to the nonvolunteer group, because the mentor and nonvolunteer groups were comprised of undergraduate students enrolled in the same university. See Table 1 for a summary of demographic data.

Table 1

*Demographic Variables*

Variable	Counselors <i>n</i> = 68	Nonvolunteers <i>n</i> =309	Mentors <i>n</i> =194
<b>Sex</b>			
Male	22 (34%)	131 (43%)	194 (54%)
Female	42 (66%)	177 (47%)	167 (46%)
<b>Age (in years)</b>			
<i>M (SD)</i>	23.63 (5.12)	19.25 (1.85)	
<b>Ethnicity</b>			
European-American	39 (66%)	251 (82%)	167 (87%)
African-American	12 (20%)	10 (3%)	8 (4%)
Latino/Latina	1 (2%)	33 (11%)	14 (7%)
Asian-American	7 (12%)	11 (4%)	2 (1%)
<b>Marital Status</b>			
Single	47 (81%)	307 (99%)	
Married	10 (17%)	1 (1%)	
Divorced/Separated	1 (2%)	0 (0%)	

Table 1 Continued.

Variable	Counselors <i>n</i> = 68	Nonvolunteers <i>n</i> =309	Mentors <i>n</i> =194
Education			
No college	13 (19%)	0 (0%)	
Some college	55 (81%)	308 (100%)	
Occupational status			
Unemployed	16 (28%)	232 (75%)	
Employed part-time	26 (45%)	72 (23%)	
Employed full-time	16 (28%)	4 (1%)	

### *Measures*

#### *Demographic Information*

The *Demographics Questionnaire*, developed for the present study, is a 6-item instrument that asked participants to report their gender, age, ethnicity, marital status, education level, and current occupation. The Demographic Questionnaire is provided in Appendix A.

In the following sections in which measures are described, the coefficient alpha and the mean inter-item correlation for this sample are provided in parenthesis for each measure.

### *Personality and Attachment*

*Goldberg's 100 Unipolar Markers* (Goldberg, 1992) was used to measure the Big Five personality factors—openness (.85, .21); conscientiousness (.85, .23); extraversion (.90, .30); agreeableness (.88, .30); and emotional stability (.82, .19). Participants indicated on a 9-point Likert scale the degree of accuracy of 100 self-described adjectives from which the five scales were drawn. Higher scores on these scales indicate greater identification of self with each trait and lower scores indicate more dissimilarity between view of self and the trait. See Figure 2 for brief descriptions of each trait. *Goldberg's 100 Unipolar Markers* is provided in Appendix B.

<b>Personality Trait</b>	<b>Higher scores indicate the individual...</b>
Openness	...has wide interests, is imaginative and insightful.
Conscientiousness	...is organized, thorough, and cautious.
Extraversion	...is talkative, energetic, and assertive.
Agreeableness	...is cooperative, warm, and friendly.
Emotional stability	...experiences relatively little negative affect and is calm.

*Figure 2.* Descriptors for Big Five Personality Traits

The *Adult Attachment Questionnaire* (AAQ; Simpson, Rholes, & Phillips, 1996) was used to measure counselors' current attachment styles in relationships with significant others. The AAQ consists of 17 items comprising two subscales, the

Avoidance scale (.85, .24) and the Ambivalence scale (.89, .31). Higher scores on these scales indicate higher levels of avoidance and/or ambivalence, respectively. Lower scores indicate more secure attachment. The *AAQ* is provided in Appendix C.

### *Efficacy*

The *Counselor Efficacy Questionnaire-Self (CEQ-Self)*, developed for the present study, asked each counselor to rate his or her own success in fulfilling the duties of a camp counselor. This measure is comprised of 12 items (e.g., worked well with other staff; was responsive to campers' needs) with responses on Likert-type rating scales. The *Supervisor Expectation Questionnaire (SEQ)* was a parallel measure used to determine supervisors' impressions of the importance of the counselor characteristics listed in the *CEQ-Self*. Supervisors' responses to these items were to be used to select which items on the *CEQ-Self* should be included in calculating the scale score. Supervisors uniformly rated all of the characteristics as very important. However, reliability analyses indicated that the 12-item version of the *CEQ-Self* had poor internal consistency (.55, .11). Examination of the inter-item correlations suggested that some counselors may have been confused by negatively worded items. All but one of these items were negatively correlated with positively worded items even after being recoded to be scored in the same direction. Elimination of these four items from the scale score resulted in a slight improvement in internal consistency (.62, .15).

The *Counselor Efficacy Questionnaire-Peer (CEQ-Peer)*, developed for the present study, was peer version of the *CEQ-Self*, where each counselor rated each of their colleagues' success in fulfilling their duties as camp counselors. Counselors did not

appear to have the same difficulty responding to negatively worded items for this measure, and internal consistency was good, including all 12 items (.91, .49). All counselors did not rate all of their colleagues, so *CEQ-P* scores were based on the average peer rating for each counselor. Scores were calculated only for those counselors who were rated by at least two of their peers. Similarly, the SEQ included all 12 items and showed good internal consistency (.86, .35). Because the supervisor and peer versions were identical and scale scores from each measure were positively related ( $r = .515, p < .002$ ), they were averaged to create one score for other-rated counselor efficacy. The *CEQ-Self*, *SEQ*, and *CEQ-Peer* are provided in Appendix D.

#### *Experience and Attitudes*

The *Experience with Youth Scale (EYS)*, developed for the present study, was designed to quantify the amount of experience counselors and nonvolunteers had working with youth. The first nine questions asked about specific experiences (e.g., number of children or younger siblings, number of years working in childcare) and the last question asked participants to compare themselves to other people their age in terms of how much experience they had working with youth (1 = much less to 5 = much more). This scale showed poor internal consistency (.53, .10). The *EYS* is provided in Appendix E.

The *Illness Beliefs Questionnaire (IBQ)*, developed for the present study, is a 12-item scale that was used to assess counselor's attitudes toward children with a chronic illness. The two versions of this questionnaire included one with questions about children with asthma and the other for diabetes. For both versions, participants appeared

to have difficulty responding consistently to negatively worded items, so these four items were not included in calculation of scale scores. Internal consistency for both the *IBQ-Asthma* (.70, .23) and *IBQ-Diabetes* (.68, .21) scales was modest. For nonvolunteers participants, the *IBQ* score was the average of their scores on the diabetes and asthma versions of the questionnaire ( $r = .62, p < .001$ ). Counselors' scores were based on responses to their beliefs about whatever ill population they were working with in the summer camps. The *IBQ-Asthma* and the *IBQ-Diabetes* are provided in Appendix F.

The *Illness Experience Questionnaire (IEQ)*, developed for the present study, is similar to the *IBQ* in that there is both an asthma and diabetes version. For this measure, participants answered six questions regarding their experiences with individuals with chronic illness. One of these items was eliminated from the calculation of the scale score because it failed to correlate significantly with the other items. Again, scores for nonvolunteer participants were calculated based on the average of their scores on *IEQ-Diabetes* and *IEQ-Asthma* ( $r = .21, p < .001$ ). Cronbach alphas and mean inter-tem correlations for the *IEQ-Asthma* (.59, .22) and the *IEQ-Diabetes* (.61, .24) indicated low to moderate internal consistency. The *IEQ-Diabetes* and the *IEQ-Asthma* are provided in Appendix G.

### *Knowledge*

Participants illness knowledge was measured using the *Asthma Questionnaire (AQ; Adams et al., 2001)* and the *Test of Diabetes Knowledge (TDK; Johnson et al., 1982)*. The *AQ* consists of 33 questions about general asthma-related knowledge and

showed good internal consistency (.93, .30). The *TDK* is comprised of 39 multiple-choice items assessing general diabetes-related knowledge and also showed good internal consistency (.95, .32). Illness knowledge scores were calculated for nonvolunteers by averaging the percent correct on each measure. Counselor's illness knowledge scores were based on their knowledge of the illness group they were working with in the summer camps. The *AQ* and the *TDK* are provided in Appendix H.

#### *Procedure*

Data regarding camp counselors used for this study were collected as part of a larger project that also gathered information from children diagnosed with asthma or diabetes (e.g., perceptions of illness, coping behaviors, and illness management) and from parents of these children (e.g., family characteristics, parenting behaviors, and views about the child's behavior).

Counselors were asked to participate in the study during their counselor orientation prior to the start of camp, and supervisors were recruited on the first day of camp. Counselor measures of attachment, personality, experience, attitudes and knowledge were collected via group administration of instruments during counselor orientation meetings. For one camp this was two weeks before the children arrived, one week for another camp, and one day for the other three camps. All counselors received the measures in the same order (attachment, personality, experiences with youth, illness beliefs, illness experiences, and last illness knowledge). At the end of camp, counselors were again surveyed about their knowledge and attitudes, were asked general demographic questions, and were asked to provide performance ratings for themselves

and their fellow counselors. Supervisors' measures were collected at the end of camp on an individual basis. All camps lasted one week. At one camp, some of the counselors stayed on after the first week to work with a new group of children. The "post-camp" measures of participants in this study were collected at the end of counselors' first week at camp.

Data from nonvolunteers were collected via group administration in a classroom on the university campus where the participants were enrolled. This group completed measures of demographics, personality, and attachment as well as both the diabetes and asthma versions of the illness attitudes, experience, and knowledge questionnaires. Half of these participants completed the diabetes measures before the asthma measures, and the other half completed these measures in the reverse order.

Archival data from mentors (i.e., other volunteers) were previously collected as part of a multi-component intervention program for aggressive children in the same community as the university campus. Mentors were required to spend a minimum of one hour per week with their mentees for one academic semester. These mentors completed *Goldberg's 100 Unipolar Markers* and the *AAQ*.

## RESULTS

### *Comparisons of Counselors and Nonvolunteers*

#### *Demographic Variables*

Preliminary analyses compared the counselor group with the nonvolunteer group on demographic variables. Camp counselors were somewhat older ( $M = 23.63$ ) than the group of nonvolunteers ( $M = 19.25$ ),  $t(57.654) = 6.319$ ,  $p < .001$ , Cohen's  $d = 1.138$ . Chi-square analyses found no between-groups differences in gender for the counselor (65.6%) and nonvolunteer (57.5%) groups,  $\chi^2(1, N = 372) = 1.456$ ,  $p < .228$ ,  $\Phi = .063$ . There was greater representation of ethnic minority groups among counselor group (33.9%) than the nonvolunteer group (17.7%),  $\chi^2(1, N = 367) = 7.076$ ,  $p < .008$ ,  $\Phi = .139$ ; and counselors were more likely to not have college experience,  $\chi^2(1, N = 366) = 71.577$ ,  $p < .001$ ,  $\Phi = .442$ . Counselors were more likely to be married than nonvolunteers to be married,  $\chi^2(1, N = 366) = 53.539$ ,  $p < .001$ ,  $\Phi = .382$ ; and to be employed part- or full-time,  $\chi^2(1, N = 366) = 86.527$ ,  $p < .001$ ,  $\Phi = .486$ . See Table 1 for further description of participants' demographic information.

#### *Dispositional Variables*

I hypothesized that counselors could be distinguished from nonvolunteers on the basis of dispositional variables personality and attachment variables. To test this prediction, a 2-group MANOVA was conducted comparing counselors and nonvolunteers on a set of related dependent variables (openness, conscientiousness, extraversion, agreeableness, emotional stability, ambivalence, and avoidance). The

MANOVA indicated a significant multivariate effect,  $F(7, 364) = 4.353, p < .001, \eta^2 = .077$ .

Univariate analyses were conducted to identify which variables participants differed on; to help limit the likelihood of making at least one Type I error in this group of analyses to .15, the nominal alpha was adjusted using the Bonferroni correction ( $\alpha = .15/7 = .021$ ). The ANOVAs supported hypothesized higher levels of agreeableness,  $F(1, 370) = 7.633, p < .006, \eta^2 = .021$ , lower levels of ambivalence,  $F(1, 370) = 7.633, p < .006, \eta^2 = .052$ , and avoidance,  $F(1, 370) = 7.633, p < .006, \eta^2 = .0026$ , for counselors compared to nonvolunteers. There were no differences in extraversion,  $F(1, 370) = 1.117, p > .291, \eta^2 = .003$ , or emotional stability,  $F(1, 370) = 2.733, p > .099, \eta^2 = .007$ , between counselors and nonvolunteers. No specific predictions were made regarding differences in conscientiousness or openness, but there were significant effects suggestive of a tendency for counselors to have higher scores on both variables,  $F(1, 370) = 5.161, p < .024, \eta^2 = .014, F(1, 370) = 4.054, p > .044, \eta^2 = .011$ , (see Table 2 for means and standard deviations).

Table 2

*Descriptive Statistics for All Time 1 Variables*

Variable	<u>Counselors</u>			<u>Nonvolunteers</u>			<u>Mentors</u>		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Openness	6.80 <sub>a</sub>	.76	68	6.58 <sub>a</sub>	.84	308	7.15 <sub>b</sub>	.63	194
Conscientiousness	6.78 <sub>a</sub>	.89	68	6.49 <sub>b</sub>	.90	308	7.36 <sub>b</sub>	.76	194
Extraversion	6.08 <sub>a</sub>	1.03	68	5.91 <sub>a</sub>	1.11	308	6.52 <sub>b</sub>	.92	194
Agreeableness	7.38 <sub>a</sub>	.77	68	7.07 <sub>b</sub>	.83	308	7.86 <sub>b</sub>	.61	194
Emotional Stability	5.28 <sub>a</sub>	.93	68	5.05 <sub>a</sub>	.97	308	4.38 <sub>b</sub>	.94	194
Avoidance	2.83 <sub>a</sub>	.84	68	3.21 <sub>b</sub>	.93	305	2.68 <sub>a</sub>	1.00	191
Ambivalence	2.94 <sub>a</sub>	.95	68	3.57 <sub>b</sub>	1.08	305	2.89 <sub>a</sub>	.98	191
Illness Knowledge (% correct)	80.82 <sub>a</sub>	19.82	69	31.58 <sub>b</sub>	16.46	308			
Illness Beliefs	4.06 <sub>a</sub>	.36	68	3.69 <sub>b</sub>	.50	305			
Illness Experience	3.81 <sub>a</sub>	3.13	69	1.39 <sub>b</sub>	.93	307			
Experience with Youth	5.31 <sub>a</sub>	2.24	68	4.52 <sub>b</sub>	2.09				
Self-rated Efficacy	4.50	.34	52						
Other-rated Efficacy	4.71	.25	57						

*Note.* Means in the same row that do not share subscripts differ at  $p < .05$ . Mentors and nonvolunteers were not compared.

In addition to the univariate follow-up tests, a discriminant function analysis (DFA) was performed to examine the relative impact (in a multivariate context) of the dependent variables in predicting group membership. With all variables used in the previous MANOVA entered, the discriminant function was significant, Wilk's  $\lambda = .923$ ,  $p < .001$ ,  $\eta^2 = .077$ . Standardized canonical-discriminant-function coefficients, the structure matrix, and classification results are reported in Table 3. Examination of the structure matrix suggested that both attachment variables were the best predictors at distinguishing between counselors and nonvolunteers (both  $r > .50$ ). Agreeableness, conscientiousness, and openness were also good predictors of group membership, and the correlation between emotional stability and the discriminant function was only slightly below the level traditionally accepted in interpretation (Tabachnick & Fidell, 1983). Examination of the function at the centroids for the two groups indicates that counselors report lower levels of ambivalence and avoidance, and higher levels of agreeableness, conscientiousness, and openness.

Using a "leave-one-out" cross-validation classification procedure (similar to jackknifing), 63.7% of participants were correctly classified, with 61.2% of counselors and 64.3% of nonvolunteers accurately identified. The Huberty  $Z$  statistic indicated that the rate of classification obtained in the analysis was better statistically than chance,  $Z = 2.923$ ,  $p < .002$ .

Table 3

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*Discriminant Function Analysis Classifying Counselors and Nonvolunteers Using Dispositional Variables*

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Predictor Variables	Standardized Canonical Discriminant Function	
	Coefficients	Structure Coefficients
Openness	-.197	-.362
Conscientiousness	-.158	-.408
Extraversion	.200	-.190
Agreeableness	-.074	-.503
Emotional Stability	.106	-.297
Avoidance	.418	.564
Ambivalence	.817	.808
<u>Classification Results</u>		<u>Predicting Group Membership</u>
Actual Group	<i>n</i>	Counselor      Nonvolunteer
Counselor	67	41 (61.2%)      26 (38.8%)
Nonvolunteer	305	109 (35.7%)      196 (64.3%)

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*Note.* Eigenvalue = .084; canonical correlation = .278; 63.7% of cross-validated grouped cases correctly classified.

Because some counselors ( $n = 15$ ) had previous experience working at camps for children with chronic illness, analyses were conducted to explore whether they differed from new counselors ( $n = 36$ ) in terms of the dispositional variables studied. The MANOVA did not indicate a significant multivariate effect,  $F(7, 43) = .769, p > .615, \eta^2 = .111$ .

#### *Experience, Attitudes, and Knowledge*

In addition to the above-mentioned differences between counselors and nonvolunteers, it was hypothesized that counselors could be distinguished from nonvolunteers on the basis of their experiences with chronic illness and with children. To test this prediction, a 2-group MANOVA was conducted to compare counselors and nonvolunteers on a set of related dependent variables (knowledge of illness, illness beliefs, experience with illness, and experience with youth). The MANOVA indicated a statistically significant overall multivariate result,  $F(4, 366) = 129.262, p < .001, \eta^2 = .586$ . Follow-up univariate analyses ( $\alpha = .15/4 = .038$ ) supported hypothesized higher levels of illness knowledge,  $F(1, 369) = 490.843, p < .001, \eta^2 = .571$ , more positive illness beliefs,  $F(1, 369) = 32.837, p < .001, \eta^2 = .082$ , greater experience with chronic illness,  $F(1, 369) = 103.885, p < .001, \eta^2 = .220$ , and greater experience with youth,  $F(1, 369) = 6.183, p < .014, \eta^2 = .016$ , for counselors compared to nonvolunteers (see Table 1 for means and standard deviations).

In addition to the univariate follow-up tests, a discriminant function analysis (DFA) was performed to examine the relative impact (in a multivariate context) of the dependent variables in predicting group membership. With all variables used in the

previous MANOVA entered, the discriminant function was significant, Wilk's  $\lambda = .414$ ,  $p < .001$ ,  $\eta^2 = .586$ . Standardized canonical-discriminant-function coefficients, the structure matrix, and classification results are reported in Table 4. Examination of the structure matrix suggests that knowledge of illness and illness experience were the best predictors at distinguishing between counselors and nonvolunteers (both  $r > .40$ ). Examination of the function at the centroids for the two groups indicates that counselors had greater knowledge of and experience with chronic illness.

Using a "leave-one-out" cross-validation classification procedure (similar to jackknifing), 93.5% of participants were correctly classified, with 89.6% of counselors and 94.4% of nonvolunteers accurately identified. The Huberty  $Z$  statistic indicated that the rate of classification obtained in the analysis was better statistically than chance,  $Z = 9.980$ ,  $p < .001$ .

Table 4

*Discriminant Function Analysis Classifying Counselors and Nonvolunteers Using Knowledge, Beliefs, and Experience*

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Predictor Variables	Standardized Canonical Discriminant Function	
	Coefficients	Structure Coefficients
Illness Knowledge (% correct)	.926	.970
Illness Beliefs	.210	.251

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Table 4 Continued

Predictor Variables	Standardized Canonical Discriminant Function	
	Coefficients	Structure Coefficients
Illness Experience	.110	.446
Experience with Youth	-.003	.109
<u>Classification Results</u>		<u>Predicting Group Membership</u>
Actual Group	<i>n</i>	Counselor      Nonvolunteer
Counselor	67	60 (89.6%)      7 (10.4%)
Nonvolunteer	304	17 (5.6%)      287 (94.4%)

*Note.* Eigenvalue = 1.143; canonical correlation = .765; 93.5% of cross-validated grouped cases correctly classified.

Analyses were conducted to explore whether counselors with previous camp experience differed from new counselors in terms of the experience, knowledge, and attitudes variables studied. The MANOVA did not indicate a significant multivariate effect,  $F(7, 43) = .769, p > .615, \eta^2 = .111$ .

#### *Comparisons of Counselors and Mentors*

##### *Demographic Variables*

Preliminary analyses compared the counselor group with the mentor group on demographic variables. Chi-square analyses indicated the mentor group had a larger

proportion of women (86.1%) than the counselor group (65.6%),  $\chi^2(1, N = 258) = 13.091, p < .001, \Phi = .225$ . There was greater representation of ethnic minority groups among counselor group (33.9%) than the mentor group (13.9%),  $\chi^2(1, N = 250) = 14.145, p < .001, \Phi = .238$ ; and counselors were less likely to have college experience than mentors,  $\chi^2(1, N = 252) = 45.848, p < .001, \Phi = .427$ . Again, data were unavailable regarding mentors' age, marital status, or occupational status. However, it is likely that the differences between counselors and nonvolunteer on these variables also existed between the counselor and mentor group because both groups were comprised of undergraduate students from the same university. See Table 1 for further description of participants' demographic variables.

#### *Dispositional Variables*

Counselors were compared to other volunteers (i.e., mentors) using the same analytical strategy and set of personality and attachment variables involved in the comparison with nonvolunteers. The MANOVA indicated a significant multivariate effect,  $F(7, 250) = 6.594, p < .001, \eta^2 = .156$ .

Follow-up univariate analyses ( $\alpha = .15/7 = .021$ ) indicated that mentors showed higher levels of openness,  $F(1, 256) = 13.901, p < .001, \eta^2 = .052$ , conscientiousness,  $F(1, 256) = 29.366, p < .001, \eta^2 = .103$ , extraversion,  $F(1, 256) = 10.592, p < .002, \eta^2 = .040$ , agreeableness  $F(1, 256) = 16.156, p < .001, \eta^2 = .093$ , and emotional stability,  $F(1, 256) = 6.912, p < .010, \eta^2 = .026$ , than counselors. There were no group differences in avoidance,  $F(1, 256) = 1.422, p > .234, \eta^2 = .006$ , or ambivalence,  $F(1, 256) = .094, p > .759, \eta^2 = .000$  (see Table 2 for means and standard deviations).

In addition to the univariate follow-up tests, a discriminant function analysis (DFA) was performed to examine the relative impact (in a multivariate context) of the dependent variables in predicting group membership. With all variables used in the previous MANOVA entered, the discriminant function was significant, Wilk's  $\lambda = .844$ ,  $p < .001$ ,  $\eta^2 = .156$ . Standardized canonical-discriminant-function coefficients, the structure matrix, and classification results are reported in Table 5. Examination of the structure matrix suggests that conscientiousness and agreeableness were the best predictors at distinguishing between counselors and mentors (both  $r > .70$ ). Openness, extraversion, and emotional stability were also good predictors of group membership. Examination of the function at the centroids for the two groups indicates that counselors had lower scores on all five of the personality scales.

Table 5

*Discriminant Function Analysis Classifying Counselors and Mentors Using Dispositional Variables*

Predictor Variables	Standardized Canonical Discriminant Function	
	Coefficients	Structure Coefficients
Openness	.133	.542
Conscientiousness	.535	.788
Extraversion	.324	.473

Table 5 Continued

Predictor Variables	Standardized Canonical Discriminant Function		
	Coefficients	Structure Coefficients	
Agreeableness	.399	.744	
Emotional Stability	.216	.382	
Avoidance	.056	-.173	
Ambivalence	.383	-.045	
<u>Classification Results</u>		<u>Predicting Group Membership</u>	
Actual Group	<i>n</i>	Counselor	Mentor
Counselor	67	41 (61.2%)	26 (38.8%)
Mentor	191	61 (31.9%)	130 (68.1%)

*Note.* Eigenvalue = .185; canonical correlation = .395; 66.3% of cross-validated grouped cases correctly classified.

Using a “leave-one-out” cross-validation classification procedure (similar to jackknifing), 66.3% of participants were correctly classified, with 61.2% of counselors and 68.1% of mentors accurately identified. The Huberty *Z* statistic indicated that the rate of classification obtained in the analysis was better statistically than chance,  $Z = 3.507$ ,  $p < .001$ .

### *Experience, Attitudes, and Knowledge*

Counselors were not compared with mentors regarding experiences with illness or children because these data were not available for the mentor group.

### *Predicting Efficacy*

Regression equations were calculated to determine if counselor characteristics were predictive of ratings of counselor efficacy. Variables were chosen as predictors in the equation based on significant bivariate correlations among the two measures of counselor efficacy (assessed at the end of the camp experience) and the pre-camp measures of counselor characteristics (see Table 6). Counselors' self-ratings of efficacy were significantly related only to knowledge of illness,  $r = .313, p < .025$ , and openness,  $r = .382, p < .007$ . Similarly, others' ratings of counselor efficacy were related to knowledge of illness,  $r = .308, p < .023$ , and experience with illness,  $r = .297, p < .028$ . When counselor openness and knowledge of illness were used to predict counselor ratings of efficacy, the overall regression equation was significant,  $R^2 = .203$ , adjusted  $R^2 = .170, F\Delta(2, 48) = 6.118, p < .005$ . Counselor openness was significantly related to efficacy ratings,  $\beta = .333, t(48) = 2.532, p < .015$ , but knowledge of illness was not,  $\beta = .245, t(48) = 1.861, p > .069$ .

Table 6

*Bivariate Correlations Among Efficacy Ratings and Antecedent Variables*

Predictor Variables	Self-Rated Efficacy	Other-Rated Efficacy
	<i>r</i> (2-tailed significance)	<i>r</i> (2-tailed significance)
Openness	.382 (.006)*	.119 (.390)
Conscientiousness	.141 (.325)	.172 (.214)
Extraversion	-.006 (.967)	-.007 (.959)
Agreeableness	.254 (.072)	.258 (.059)
Emotional Stability	.215 (.129)	.034 (.809)
Avoidance	-.111 (.438)	-.022 (.874)
Ambivalence	-.267 (.058)	.091 (.513)
Illness Knowledge	.313 (.024)*	.308 (.022)*
Illness Beliefs	-.035 (.810)	-.064 (.644)
Illness Experience	.076 (.591)	.297 (.027)*
Experience With Youth	-.052 (.717)	.235 (.087)

*Note.* \* indicates correlations with  $p < .05$ .

The equation predicting others' ratings of efficacy was also significant,  $R^2 = .144$ , adjusted  $R^2 = .111$ ,  $F\Delta(2, 52) = 4.372$ ,  $p < .018$ . However, neither counselor knowledge of illness,  $\beta = .245$ ,  $t(52) = 1.836$ ,  $p > .072$ , nor experience with illness,  $\beta = .230$ ,  $t(52) = 1.726$ ,  $p > .090$ , were significantly related to efficacy ratings.

*Changes in Attitudes and Knowledge*

Paired-groups *t*-tests, comparing Time<sub>1</sub> and Time<sub>2</sub> measures of counselor knowledge of illness and attitudes toward ill children, indicated that counselors increased in knowledge of chronic illness,  $t(56) = -2.746, p < .009$ , Cohen's  $d = .364$  ( $M_1 = 79.96, SD_1 = 21.08; M_2 = 85.76, SD_2 = 12.72$ ). There was no change in their attitudes toward children with chronic illness,  $t(50) = -.916, p > .364$ , Cohen's  $d = .109$  ( $M_1 = 4.03, SD_1 = .38; M_2 = 4.09, SD_2 = .46$ ).

## CONCLUSION

Results from the present study supported the hypotheses that camp counselors volunteering to work with chronically ill children differ from nonvolunteers in terms of personality characteristics, attachment style, knowledge, attitudes and previous experiences. Also consistent with expectations, counselors experienced increases in camp-relevant knowledge over the course of their volunteering experience. Contrary to expectations, results did not indicate a reliable pattern for prediction of counselor efficacy based on the observed antecedent characteristics.

### *Comparisons of Counselors and Nonvolunteers*

#### *Demographic Variables*

Contrary to expectations, there were not a significantly greater proportion of females among counselors than nonvolunteers. However, the majority of counselors were female, and the lack of a difference between the two groups may be due to overrepresentation of women among nonvolunteers. Counselors did differ in terms of other demographic characteristics from nonvolunteers, but the size of these differences were typically not large and were mostly attributable to limitations of the nonvolunteer comparison sample (e.g., all college students at a predominately European-American university). Thus, demographic differences between counselors and nonvolunteers in the present study are unlikely to generalize to other settings.

#### *Dispositional Variables*

Regarding dispositional variables predicting volunteering, the most striking finding of the present study was the role played by attachment style. This characteristic

has been ignored in past studies, but the two measures of attachment were the strongest predictors of group membership in this sample. Among the dispositional characteristics studied, ambivalence and avoidance accounted for the largest differences between counselors and nonvolunteers (partial  $\eta^2 = .052$  and  $.026$ , respectively) and made the greatest individual contributions to the discriminant function that distinguished between the two groups. This finding is consistent with descriptions of volunteers in the literature as having positive expectations regarding relationships (Omoto et al., 1998), being more trusting (Howarth, 1976), and more capable of intimacy (Fretz, 1979; Tapp & Spanier, 1973) than nonvolunteers.

In addition to the prominent role attachment style played in differentiating between the two groups, some of the measured personality variables contributed as well. As predicted, counselors were found to be more agreeable than nonvolunteers. This is consistent with Elshaug and Metzger's (2001) finding that volunteers were more agreeable than nonvolunteers and with other research documenting that volunteers tend to be higher in empathy (Allen & Rushton, 1983; Davis et al., 1999; Unger & Thummuluri, 1997).

Although the two groups were not expected to differ in how conscientiousness or open to experience they were, a slight tendency emerged for the typical counselor to be more conscientious and open to experience than the typical nonvolunteer. However, the effect sizes for these mean differences were small (partial  $\eta^2 = .011$  and  $.014$ , respectively) and neither variable contributed much to distinguishing between groups when other dispositional variables were considered. Neither characteristic is considered

a reliable predictor of volunteerism in the literature. The only study previously to examine the relation between conscientiousness and volunteerism also failed to find a significant association (Elshaug & Metzger, 2001).

Similarly, in this sample no group differences existed in extraversion or emotional stability, and neither of these variables contributed significantly to discriminating between counselors and nonvolunteers. The null finding for the trait of extraversion is notable because the only other study to use a 5-factor model of personality to examine volunteer characteristics (Elshaug & Metzger, 2001) found volunteers to have higher levels of extraversion. Moreover, studies using slightly different conceptualizations of this trait (e.g., extraversion-introversion scale of the MBTI; Carlson & Levy, 1973; Mitchell & Shuff, 1995) also found volunteers to be more extraverted than nonvolunteers. One possible explanation for this might be that counselors working with chronically ill children are less extraverted than other volunteers. In fact, this was supported by results of the present study in the comparison between counselors and mentors. Perhaps introversion is typically an obstacle to volunteering, but individuals in this group have sufficient other motivations (e.g., identification with those being served) that they are able to overcome their shyness. In support of this, counselors had more experience with the type of chronic illness they worked with than the nonvolunteers and more positive attitudes toward ill children.

The absence of a difference between volunteers and nonvolunteers in emotional stability is consistent with Elshaug and Metzger's (2001) findings, but it is also somewhat unexpected given the ample evidence in the literature describing volunteers as well-

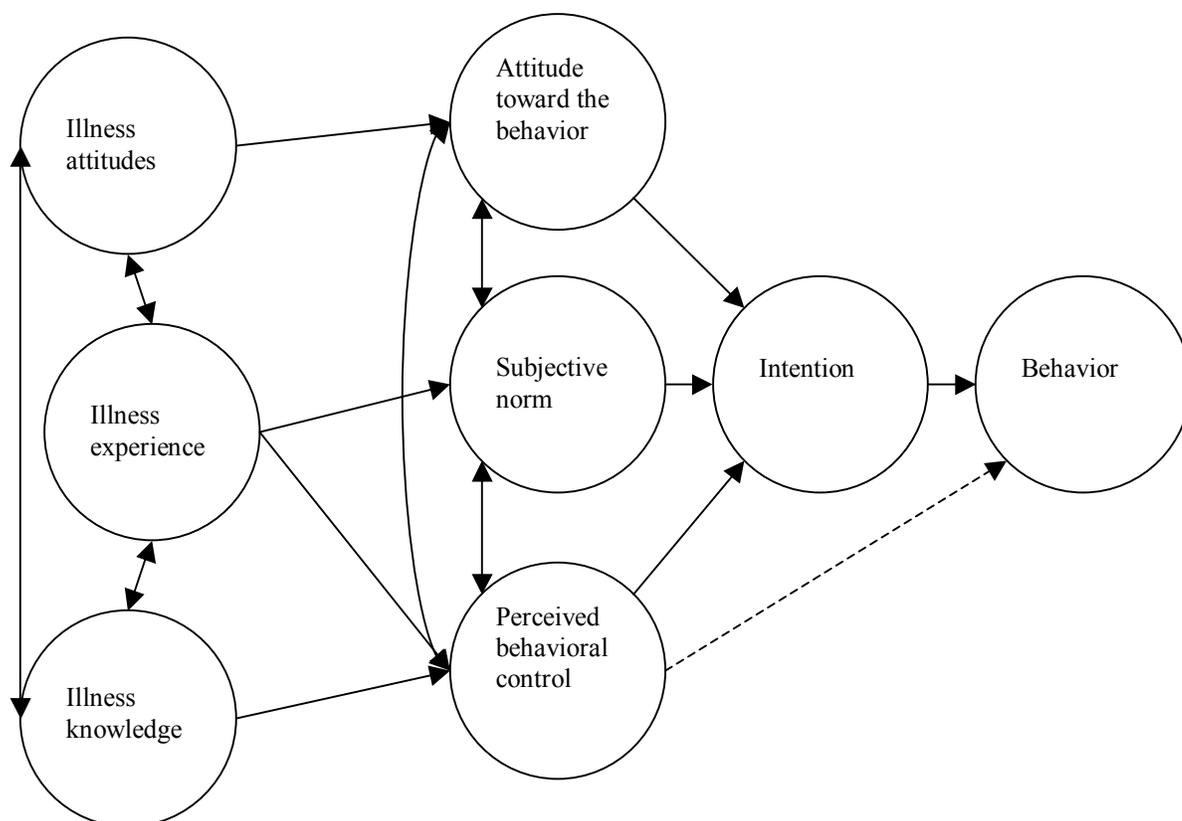
adjusted people who often experience positive moods (Allen & Rushton, 1983). Similar to the proposed explanation for null findings regarding extraversion, it is possible that some of the counselors in the study experience higher levels of anxiety in their daily lives that might typically deter them from volunteering, but something about the nature of this particular experience motivated them to overcome this lack of emotional stability.

To summarize, counselors volunteering to work with chronically ill children were agreeable conscientious individuals who were comfortable with relational intimacy. There were some ways in which they did not fit the typical profile of a volunteer (i.e., not more extraverted or emotionally stable than nonvolunteers), and these deviations may indicate unique motivations for working with the population of chronically ill children or other variables specific to this sample.

#### *Experience, Attitudes, and Knowledge*

As expected, counselors had more experience with chronically ill children and youth in general, more knowledge of chronic illness, and more positive attitudes toward children with a chronic illness than nonvolunteers. Knowledge of illness and experience with chronic illness stand out as the characteristics that best differentiate between counselors and nonvolunteers. This is consistent with what Ajzen's theory of planned behavior (1985; 1991) would predict. Specifically, people are more likely to engage in a planned behavior (e.g., volunteering) if they feel they will be successful, and having more knowledge about the illness you are volunteering to work with should increase one's perceptions of the likelihood of success. Indeed, counselors' self-ratings of efficacy were positively related to the amount of knowledge they had before camp

began. Ajzen's theory also suggests behaviors are more likely to occur when there is greater social pressure to do them, and individuals who had more experience working with a certain population would seem to have more social pressure to volunteer to help them. Thus, it is not surprising that the people in this sample who volunteered to work with ill children had more experience with that illness (e.g., more friends and family with that illness). A visual representation of this elaboration on the theory of planned behavior is provided in Figure 3.



*Figure 3.* Modified Theory of Planned Behavior.

### *Comparisons of Counselors and Mentors*

Results suggested that mentors were more open, conscientious, extraverted, agreeable, and emotionally stable than counselors. That mentors rated themselves more highly on all five personality traits, suggests the possibility of a positive response bias. Mentors may have experienced greater pressure to present a positive self-image than counselors, because when they completed their self-report measures they were told that their responses would influence whether or not they would be chosen to be mentors. When counselors completed their self-report measures, they had already been selected to participate in the camps. However, this explanation of biased responding fails to account for the lack of differences between the two groups in terms of the two measures of attachment style. Perhaps mentors reflect the trait levels of the typical volunteer, and counselors really are less open, conscientious, extraverted, agreeable, and emotionally stable. Perhaps situational variables (e.g., having a family member with a chronic illness) played a more significant role in motivating these counselors to volunteer than they did for mentors. Alternatively, perhaps these differences were the result of positive response bias by mentors on the measure of personality and the measures of attachment were somehow less susceptible to this biased responding. More direct assessment of volunteers' motivations would be necessary to clarify the current pattern of results.

### *Predicting Efficacy*

Efforts to predict who would be the most effective counselors were not successful. Knowledge of illness was the only variable related to both self- and other's (peer and supervisor) ratings of efficacy. However, when these relations were

considered in context with other important variables, they failed to account for much of the variance in ratings of efficacy. It seems likely that a clear relation could not be established in the present sample because of the small amount of variability in efficacy ratings by counselors of themselves and by others. All efficacy ratings tended to be uniformly high in the present study.

#### *Changes in Counselors*

Consistent with expectations, counselors demonstrated increases in their knowledge of illness over the course of their camp experience.

Contrary to hypotheses, there was no change in counselor's attitudes toward children with chronic illness. This finding runs counter to previous research documenting attitude change toward the population served (Cowen et al., 1966; Herr, 1975; Hobfoll, 1980; Holzberg & Gewirtz, 1963; Holzberg et al., 1964; Miller et al., 2002; Youniss & Yates, 1997), but is probably best understood as reflecting a ceiling effect. Counselors had uniformly positive attitudes before camp began ( $M = 4.03$  on a 5-point scale), which provided little room for their attitudes to improve.

#### *Limitations*

Before discussing potential implications of the findings from the present study, it is important to consider limitations that might reduce their generalizability or cloud their interpretation. The primary weakness of the present study was its reliance on self-report measures. This approach to assessment is vulnerable to biased responding, so confidence in the validity of the results garnered is not assured. Using self-report measures seems most problematic for questions of predicting efficacy. Although ratings were obtained

from peer and supervisors in addition to self-reported efficacy, using a more objective criterion (e.g., change in knowledge of campers worked with) would allow for potentially more meaningful results. Also, no data are available from other investigators regarding the self-report instruments created for the purposes of this investigation, and the data from the present study indicate that some of these measures have less than optimal psychometric properties (e.g., measures of efficacy, experience with youth, and attitudes toward children with chronic illness). This limits the validity of interpretations made based on data from these measures.

Second, the volunteer process model (Omoto & Snyder, 1990) suggests that studying dispositional characteristics of volunteers provides information about what type of person chooses to become a volunteer. This is predicated on the assumption that measured characteristics reflect how a person was before they decided to volunteer. The counselors in the present study had already committed to work at the camps when they were assessed, and a small number of them had previously worked at similar camps. If making the commitment to volunteer influences one's view of self (and therefore disposition as measured by self-report), then interpretations of counselor-nonvolunteer differences as indicators of volunteering antecedents may not be valid. However, the stability of personality is fairly well documented (Costa, Herbst, McCrae, & Siegler, 2000), and results of the present study indicated that counselors with previous experience did not differ from new counselors on dispositional variables. Thus, differences observed between volunteers and nonvolunteers are thought to provide meaningful information about antecedents of volunteerism.

### *Implications*

Despite these limitations, results of the current investigation may have important implications for future research. One reason the volunteer process model (Omoto & Snyder, 1990) focuses research attention on antecedents of volunteerism is that understanding who volunteers can aid volunteer organizations in their recruitment and retention efforts. Information provided by the current investigation about the tendency for counselors (and perhaps other volunteers) to have more secure attachment styles than nonvolunteers may well be important for retention. The Omoto et al. (2000) study of adult hospice volunteers demonstrated that ratings of relationship closeness were positively related to overall satisfaction and commitment to volunteering. It seems likely that secure attachment styles would be predictive of ratings of relationship closeness, and therefore measures of attachment style may also be predictive of retention. Further, counselors identified as having more ambivalent or insecure attachment styles may benefit from relationship coaching to prevent burnout. Although attachment style was not related to efficacy ratings in the present study, this may have resulted from limitations of the methods used to assessing efficacy. Now that findings from this study have identified the importance of measuring attachment style in volunteers, perhaps future research will document an association with efficacy.

Future research should also address the question of the impact of choosing to volunteer on one's identity. A possible course of inquiry could include obtaining measures of personality and attachment from a group of nonvolunteers, presenting a

persuasive argument for volunteering to this group, and then reassess dispositional variables after the individuals have chosen whether or not to volunteer.

The possibility of an effect of biased responding on mentors' responses renders interpretation of differences between the two groups of volunteers difficult. More research is certainly needed to clarify how groups of volunteers differ from each other. One possible moderating variable suggested here was the role of situational variables in determining the choice to volunteer.

Finally, one of the most important tasks for future research is to identify methods of assessment to be used in camps that have sounder psychometric properties. Although Goldberg's 100 Unipolar Markers demonstrated adequate internal consistency in the present study, the NEO-PI-R (Costa & McCrae, 1992) may be a better choice for future research because there are more published studies documenting the solid psychometric properties of this instrument. Unfortunately, no published measures of illness attitudes or experience exist that are suitable for assessing these constructs in volunteer camp counselors. Development of such instruments may also be a priority for future research. Although the measure of illness knowledge demonstrated good psychometric properties, some counselors remarked anecdotally that some of the items on these measures were outdated. An updated test of asthma knowledge has yet to be developed, but recently Heidgerken et al. (2005) developed a measure of diabetes knowledge which they report has good psychometric properties. They have already demonstrated they can use this instrument to reliably measure change in knowledge of diabetes knowledge in prospective camp counselors following an on-line education session.

### *Summary and Conclusions*

Overall, results of the present study were consistent with findings from the volunteerism literature that volunteers differ from nonvolunteers regarding dispositional characteristics and that there are measurable benefits of volunteering (e.g., increased knowledge). A new contribution to the literature was the finding that counselors had more secure attachment styles than nonvolunteers. It is not yet clear if counselors differ in meaningful ways from other groups of volunteers or what counselor characteristics are most predictive of counselor efficacy. Future research is called for to continue augmenting our understanding of this special population.

## REFERENCES

- Abrami, P. C., & Perry, R. P. (1976). Recruitment of college volunteers for community service organizations using the lecture method. *Journal of Community Psychology, 4*(4), 369-377.
- Adams, C. D., Brestan, E. V., Ruggiero, K. J., Hogan, M. B., Wilson, N. W., Shigaki, C. L., et al. (2001). Asthma questionnaire: Psychometric properties and clinical utility in pediatric asthma. *Children's Health Care, 30*, 253-270.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, & J. Beckmann (Eds.), *Action-control: From cognition to behavior* (pp. 11-39). Heidelberg: Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior & Human Decision Processes. Special Issue: Theories of cognitive self-regulation, 50*, 179-211.
- Allen, N. J., & Rushton, J. P. (1983). Personality characteristics of community mental health volunteers: A review. *Journal of Voluntary Action Research, 12*, 36-49.
- Alper, S. & Algozzine, B. (1977). The effects of a seven day camping experience on volunteer student counselors. *Adolescence, 12*, 533-540.
- Bales, K., (1996). Measuring the propensity to volunteer. *Social Policy & Administration, 30*(3), 206-226.
- Bowlby, J. (1980). *Attachment and loss*. New York: Basic Books, Inc.
- Briery, B. G., & Rabian, B. (1999). Psychosocial changes associated with participation in a pediatric summer camp. *Journal of Pediatric Psychology, 24*, 183-190.

- Burke, D. M., & Hall, M. (1986). Personality characteristics of volunteers in a Companion for Children program. *Psychological Reports, 59*, 819-825.
- Cadman, D., Boyle, M., Szatmari, P., & Offord, D. R. (1987). Chronic illness, disability, and mental and social well-being: Findings of the Ontario Child Health Study. *Pediatrics, 79*(5), 805-813.
- Carlson, R., & Levy, N. (1973). Studies of Jungian typology: I. Memory, social perception, and social action. *Journal of Personality, 41*(4), 559-576.
- Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., et al. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology, 74*, 1516-1530.
- Cohen, A., Schmida, M., & Ferman, I. (1985). The Personal Involvement Project: Differences between volunteering and non-volunteering high school pupils. *Megamot, 29*, 216-222.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Herbst, J. H., McCrae, R. R., & Siegler, I. C. (2000). Personality at midlife: Stability, intrinsic maturation, and response to life events. *Assessment. Special Issue: Innovations in assessment using the Revised NEO Personality Inventory, 7*, 365-378.
- Cowen, E. L., Zax, M., & Laird, J. D. (1966). A college student volunteer program in the elementary school setting. *Community Mental Health Journal, 2*(4), 319-328.

- Creer, T. (1991). The application of behavioral procedures to childhood asthma: Current and future perspectives. *Patient Education & Counseling, 17*, 9-22.
- Darley, J. M., & Latane, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality & Social Psychology, 8*, 377-383.
- Davis, M. H., Hall, J. A., & Meyer, M. (2003). The first year: Influences on the satisfaction, involvement, and persistence of new community volunteers. *Personality & Social Psychology Bulletin, 29*(2), 248-260.
- Davis, M. H., Mitchell, K. V., Hall, J. A., Lothert, J., Snapp, T., & Meyer, M. (1999). Empathy, expectations, and situational preferences: Personality influences on the decision to participate in volunteer helping behaviors. *Journal of Personality, 67*, 469-503.
- Deysach, R. E., Ross, A. W., & Hiers, T. G. (1977). Locus of control in prediction of counselor effectiveness within a therapeutic camp setting. *Journal of Clinical Psychology, 33*, 273-278.
- Doherty, Y., Hall, D., James, P. T., Roberts, S. H., & Simpson, J. (2000). Change counseling in diabetes: The development of a training programme for the diabetes team. *Patient Education & Counseling, 40*, 263-278
- Durkin, R. (1988). A competency-oriented summer camp and year-round program for troubled teenagers and their families. *Residential Treatment for Children and Youth, 6*, 63-85.

- Elshaug, C., & Metzger, J. (2001). Personality attributes of volunteers and paid workers engaged in similar occupational tasks. *Journal of Social Psychology, 141*, 752-763.
- Fitch, R. T. (1991). Differences among community service volunteers, extracurricular volunteers, and nonvolunteers on the college campus. *Journal of College Student Development, 32*(6), 534-540.
- Fitzpatrick, S. B., Coughlin, S. S., Chamberlin, J., & Pediatric Lung Committee of the American Lung Association of the District of Columbia. (1992). A novel asthma camp intervention for childhood asthma among urban blacks. *Journal of the National Medical Association, 84*(3), 233-237.
- Fretz, B. R. (1979). College students as paraprofessionals with children and the aged. *American Journal of Community Psychology, 7*(3), 357-360.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4*, 26-42.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*(1), 26-34.
- Gortmaker, S. L. (1985). Demography of chronic childhood diseases. In N. Hobbs, & J. M. Perrin (Eds.), *Issues in the care of children with chronic illness: A sourcebook on problems, services, and policies. Jossey-Bass health series and Jossey-Bass social and behavioral science series* (pp. 135-154). San Francisco, CA: Jossey-Bass.

- Hamburg, B. A., & Inoff, G. E. (1982). Relationships between behavioral factors and diabetic control in children and adolescents: A camp study. *Psychosomatic Medicine, 44*(4), 321-339.
- Harkavy, J., Bennett Johnson, S., Silverstein, J. Spillar, R., McCallum, M., & Rosenbloom, A. (1983). Who learns what at diabetes summer camp. *Journal of Pediatric Psychology, 8*, 143-153.
- Hazzard, A., & Angert, L. (1986). Knowledge, attitudes, and behavior in children with asthma. *Journal of Asthma, 23*(2), 61-67.
- Heidgerken, A. D., Lewin, A. B., Geffken, G. R., Gelfand, K. M., Storch, E. A., & Malasanos, T. (2005). Online diabetes education: Design and evaluation with prospective diabetes camp counselors. *Journal of Telemedicine & Telecare, 11*(2), 93-96.
- Herman, K., & Usita, P. (1994). Predictive validity of the 16 PF in screening volunteers for Big Brothers/Big Sisters. *Psychological Reports, 74*, 249-250.
- Herr, D. E. (1975). Camp counseling with emotionally disturbed adolescents. *Exceptional Children, 41*, 331-332.
- Hobfoll, S. E. (1980). Personal characteristics of the college volunteer. *American Journal of Community Psychology, 8*, 503-506.
- Holland, J. L. (1985). *Vocational Preference Inventory (VPI) professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Holzberg, J. D., & Gewirtz, H. (1963). A method of altering attitudes toward mental illness. *Psychiatric Quarterly Supplement, 37*(1), 56-61.

- Holzberg, J. D., Gewirtz, H., & Ebner, E. (1964). Changes in moral judgment and self-acceptance in college students as a function of companionship with hospitalized mental patients. *Journal of Consulting Psychology, 28*(4), 299-303.
- Howarth, E. (1976). Personality characteristics of volunteers. *Psychological Reports, 38*(3, Pt 1), 853-854.
- Johnson, S. B., Pollak, T., Silverstein, J. H., Rosenbloom, A. L., Spillar, R., McCallum, M., et al. (1982). Cognitive and behavioral knowledge about insulin-dependent diabetes among children and parents. *Pediatrics, 69*, 708-713.
- Kiernan, G., Gormley, M., & MacLachlan, M. (2004). Outcomes associated with participation in a therapeutic recreation camping programme for children from 15 European countries: Data from the 'Barretstown studies'. *Social Science & Medicine, 59*(5), 903-913.
- Kirkpatrick, L. A., & Hazan, C. (1994). Attachment styles and close relationships: A four-year prospective study. *Personal Relationships, 1*(2), 123-142.
- Klein, N. A., Sondag, K. A., & Drolet, J. C. (1994). Understanding volunteer peer health educators' motivations: Applying social learning theory. *Journal of American College Health, 43*, 126-130.
- Knapp, R. H., & Holzberg, J. D. (1964). Characteristics of college students volunteering for service to mental patients. *Journal of Consulting Psychology, 28*(1), 82-85.
- Lavigne, J. V., & Faier-Routman, J. (1993). Correlates of psychological adjustment to pediatric physical disorders: A meta-analytic review and comparison with

- existing models. *Journal of Developmental & Behavioral Pediatrics*, 14(2), 117-123.
- Liakopoulou, M. (1999). The separation-individuation process in adolescents with chronic physical illness. In M. Sugar (Ed.), *Trauma and adolescence. Monograph series of the International Society for Adolescent Psychiatry, Vol. 1*, (pp. 93-107). Madison, CT: International University Press.
- Lock, J. (1998). Psychosexual development in adolescents with chronic medical illnesses. *Psychosomatics: Journal of Consultation Liaison Psychiatry*, 39, 340-349.
- Lord, A., St. Leger, L. H., Ridge, D. T., & Elisha, D. (2001). The value of asthma camps for young people in Victoria, Australia. *Contemporary Nurse*, 11(2-3), 133-141.
- Mancuso, M. & Caruso-Nicoletti, M. (2003). Summer camps and quality of life in children and adolescents with type 1 diabetes. *ACTA Bio-Medica de l'Ateneo Parmense*, 74(Suppl. 1), 35-37.
- Meng, A., Tiernan, K., Bernier, M. J., & Brooks, E.G. (1998). Lessons from an evaluation of the effectiveness of an asthma day camp. *American Journal of Maternal Child Nursing*, 23(6), 300-306.
- Metroz-Dayer, M. D., Roulet, E. (1990). Educational value of diabetes camps for children. *Journal Suisse de Medecine*, 120(3), 66-71.
- Miller, K. D., Schleien, S. J., Rider, C., Hall, C., Roche, M., & Worsley, J. (2002). Inclusive volunteering: Benefits to participants and community. *Therapeutic Recreation Journal*, 36(3), 247-259.

- Mimura, G. (1994). Summer camp. *Diabetes Research and Clinical Practice*, 24(Suppl.), 287-290.
- Misuraca, A., Di Gennaro, M., Lioniello, M., Duval, M., Aloï, G., Mitchell, C. W., et al. (1996). Summer camps for diabetic children: An experience in Campania, Italy. *Diabetes Research and Clinical Practice*, 32(1-2), 91-96.
- Mitchell, C. W., & Shuff, I. M. (1995). Personality characteristics of hospice volunteers as measured by Myers-Briggs Type Indicator. *Journal of Personality Assessment*, 65, 521-532.
- Moussa, M. A. A., Alacid, M., Abdella, N., Refai, T. M. K., Al-Sheikh, N., & Gomez, J. E. (2005). Social and psychological characteristics of Kuwaiti children and adolescents with type 1 diabetes. *Social Science & Medicine*, 60(8), 1835-1844.
- Myers, I. B. & McCaulley, M. H. (1985). *Manual: A guide to the development and use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press.
- Omoto, A. M., Gunn, D. O., & Crain, A. L. (1998). Helping in hard times: Relationship closeness and the AIDS volunteer experience. In V. J. Derlega, & A. P. Barbee (Eds.), *HIV and social interaction*. (pp. 106-128). Thousand Oaks, CA: Sage Publications, Inc.
- Omoto, A. M., & Snyder, M. (1990). Basic research in action: Volunteerism and society's response to AIDS. *Personality & Social Psychology Bulletin. Special Issue: Illustrating the value of basic research*, 16(1), 152-165.

- Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: Motivation, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of Personality & Social Psychology, 68*(4), 671-686.
- Omoto, A. M., Snyder, M., & Berghuis, J. P. (1993). The psychology of volunteerism: A conceptual analysis and a program of action research. In J. B. Pryor, & G. D. Reeder (Eds.), *The social psychology of HIV infection* (pp. 333-356). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Omoto, A. M., Snyder, M., & Martino, S. C. (2000). Volunteerism and the life course: Investigating age-related agendas for action. *Basic and Applied Social Psychology, 22*, 181-197.
- Padur, J. S., Rapoff, M. A., Houston, B. K., & Barnard, M. (1995). Psychosocial adjustment and the role of functional status for children with asthma. *Journal of Asthma, 32*(5), 345-353.
- Penner, L. A. (2002). Dispositional and organizational influences on sustained volunteerism: An interactionist perspective. *Journal of Social Issues, 58*, 447-467.
- Penner, L. A., & Finkelstein, M. A. (1998). Dispositional and structural determinants of volunteerism. *Journal of Personality & Social Psychology, 74*(2), 525-537.
- Penner, L. A., Fritzsche, B. A., Craiger, J. P., Freifeld, T. S. (1995). Measuring the prosocial personality. In J. Butcher, & C. Spielberger (Eds.), *Advances in personality assessment, Vol. 10* (pp. 147-163). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

- Pillavin, J. A., Dovidio, J. F., Gaertner, S. L., & Clark, R. D. (1981). *Emergency intervention*. New York: Academic Press.
- Punnett, A. F., & Thurber, S. (1993). Evaluation of the asthma camp experience for children. *Journal of Asthma*, 30(3), 195-198.
- Rosenbloom, A. L. (2001). Why diabetes camp? *Clinical Pediatrics*, 40(9), 511-516.
- Rutter M., Tizard J., Whitmore K. (1970). *Education, health and behaviour*. London: Longmans.
- Saunders, B. T., & Papanikou, A. J. (1970). Minnesota Multiphasic Personality Inventory sub-scale indices of effective child-care personnel. *Devereux School Forum*, 6, 19-26.
- Semiz, S., Bilgin, U. O., Bundak, R., & Bircan, I. (2000). Summer camps for diabetic children: An experience in Antalya, Turkey. *Acta Diabetologica*, 37(4), 197-200.
- Sergent, M. T., & Sedlacek, W. E. (1990). Volunteer motivations across student organizations: A test of person-environment fit theory. *Journal of College Student Development*, 31, 255-261.
- Serow, R. C. (1990). Volunteering and values: An analysis of students' participation in community service. *Journal of Research & Development in Education*, 23(4), 198-203.
- Serow, R. C. (1991). Students and voluntarism: Looking into the motives of community service participants. *American Educational Research Journal*, 28(3), 543-556.
- Silvers, W. S., Holbreich, M., Go, S., & Morrison, M. R. (1992). Champ camp: The Colorado children's asthma camp experience. *Journal of Asthma*, 29(2), 121-135.

- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71*, 899-914.
- Smith, B. M., & Nelson, L. D. (1975). Personality correlates of helping behavior. *Psychological Reports, 37*, 307-310.
- Snyder, M., & Omoto, A. M. (2001). Basic research and practical problems: Volunteerism and the psychology of individual collective action. In W. Wosinska, R. Cialdini, D. Barrett, & J. Reyskowski, (Eds.), *The practice of social influence in multiple cultures* (pp. 287-307). Mahwah, NJ: Erlbaum.
- Snyder, M., Omoto, A. M., & Lindsay, J. J. (2004). Sacrificing time and effort for the good of others: The benefits and costs of volunteerism. In A. G. Miller (Ed.), *The social psychology of good and evil* (pp. 444-468). New York: Guilford Press.
- Sorrells, V. D., Chung, W., & Schlumpberger, J. M. The impact of a summer asthma camp experience on asthma education and morbidity in children. *Journal of Family Practice, 41*(5), 465-468.
- Spitz, R. T., & MacKinnon, J. R. (1993). Predicting success in volunteer community service. *Psychological Reports, 73*(3, Pt 1), 815-818.
- Strax, T. E. (1991). The psychological issues faced by adolescents and young adults with disabilities. *Pediatric Annuals, 20*, 507-511.
- Summers, G. F., Shuster, A. A., & Shuster, S. K. (1969). The Minnesota Teacher Attitude Inventory and counselor-camper interaction: A note on predictive validity. *Educational and Psychological Measurement, 29*, 999-1004.

- Tabachnick, B. & Fidell, L. S. (1983). *Using multivariate statistics*. New York: Harper & Row.
- Tapp, J. T., & Spanier, D. (1973). Personal characteristics of volunteer phone counselors. *Journal of Consulting & Clinical Psychology, 41*(2), 245-250.
- Task Force on Community Preventive Services. (2002). Recommendations for healthcare system and self-management education interventions to reduce morbidity and mortality from diabetes. *American Journal of Preventive Medicine, 22*(4 Suppl.), 10-14.
- Thoits, P. A., & Hewitt, L. N. (2001). Volunteer work and well-being. *Journal of Health and Social Behavior, 42*, 115-131.
- Thomas, D. & Gaslin, T. C. (2001). "Camping up" self-esteem in children with hemophilia. *Issues in Comprehensive Pediatric Nursing, 24*, 253-263.
- Trudeau, K. J., & Devlin, A. S. (1996). College students and community service: Who, with whom, and why? *Journal of Applied Social Psychology, 26*, 1867-1888.
- Tumini, S. Anzellotti, M. T., & Chiarelli, F. (2003). Camps for children with T1DM. *ACTA Bio-Medica de l'Ateneo Parmense, 74*(Suppl. 1), 32-34.
- Turner, J. R. (1973). Personal and situational determinants of volunteer recruitment for a campus "hotline" program. *Journal of the American College Health Association, 21*(4), 353-357.
- Unger L. S., & Thumulari, L. K. (1997). Trait empathy and continuous helping: The case of voluntarism. *Journal of Social Behavior and Personality, 12*, 785-800.

- Wallander, J. L., & Thompson, R. J. J. (1995). Psychosocial adjustment of children with chronic physical conditions. In M. C. Roberts (Ed.), *Handbook of pediatric psychology (2nd ed.)* (pp. 124-141). New York: Guilford Press.
- Weiland, S. K., Pless, I. B., & Roghmann, K. J. (1992). Chronic illness and mental health problems in pediatric practice: Results from a survey of primary care providers. *Pediatrics*, *89*, 445-449.
- Wilson, J., & Musick, M. (1997). Who cares? Toward an integrated theory of volunteer work. *American Sociological Review*, *62*(5), 694-713.
- Yan, C. & Miao, F. Y. (1989). Summer camps for diabetic children in Beijing of China. *Indian Journal of Pediatrics*, *56*(Suppl. 1), 125-127.
- Youniss, J., & Yates, M. (1997). *Community service and social responsibility in youth*. Chicago, IL: University of Chicago Press.

## APPENDIX A

## Demographic Information

Dear Counselor or Supervisor,

The questions below are about you. If there are any questions you would prefer not to answer, just skip them. Your answers to these questions will be treated in a confidential manner. Your answers will be known only to the researchers at Texas A&M University.

Today's date \_\_\_\_\_

Your sex (check one):     \_\_\_\_\_ M                     \_\_\_\_\_ F

Your age: \_\_\_\_\_

Your Ethnicity (check one):

- \_\_\_\_\_ African American or Black
- \_\_\_\_\_ American Indian or Alaska Native
- \_\_\_\_\_ Asian-American
- \_\_\_\_\_ Caucasian or White (Not of Hispanic origin)
- \_\_\_\_\_ Hispanic or Latino
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

Please indicate your marital status (check one):

- \_\_\_\_\_ Divorced/Separated
- \_\_\_\_\_ Married
- \_\_\_\_\_ Single
- \_\_\_\_\_ Widowed

Please indicate the *highest* level of education you completed:

- \_\_\_\_\_ Less than high school
- \_\_\_\_\_ Some high school
- \_\_\_\_\_ Graduated high school/GED
- \_\_\_\_\_ Some college or vocational/technical school
- \_\_\_\_\_ Graduated from vocational/technical school
- \_\_\_\_\_ Associate's degree                     Area of study: \_\_\_\_\_
- \_\_\_\_\_ Graduated from a four-year college     Area of study: \_\_\_\_\_
- \_\_\_\_\_ Some graduate work                     Area of study: \_\_\_\_\_
- \_\_\_\_\_ Completed a graduate degree             Area of study: \_\_\_\_\_

What is your employment situation?

- \_\_\_\_\_ Employed full time             Job title: \_\_\_\_\_
- \_\_\_\_\_ Employed part-time         Your disability: \_\_\_\_\_
- \_\_\_\_\_ Disabled
- \_\_\_\_\_ Unemployed
- \_\_\_\_\_ Retired
- \_\_\_\_\_ Full time homemaker
- \_\_\_\_\_ Other (please specify)

## APPENDIX B

## How Accurately Can You Describe Yourself?

Please use this list of common human traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age. *If there are any words that you do not know or understand, please circle them.*

Before each trait, please write a number indicating how accurately that trait describes you, using the following rating scale:

Inaccurate					Accurate			
<u>Extremely</u>	<u>Very</u>	<u>Quite</u>	<u>Slightly</u>	<u>Neither</u>	<u>Slightly</u>	<u>Quite</u>	<u>Very</u>	<u>Extremely</u>
1	2	3	4	5	6	7	8	9

<input type="checkbox"/> Active	<input type="checkbox"/> Extraverted	<input type="checkbox"/> Negligent	<input type="checkbox"/> Trustful
<input type="checkbox"/> Agreeable	<input type="checkbox"/> Fearful	<input type="checkbox"/> Nervous	<input type="checkbox"/> Unadventurous
<input type="checkbox"/> Anxious	<input type="checkbox"/> Fretful	<input type="checkbox"/> Organized	<input type="checkbox"/> Uncharitable
<input type="checkbox"/> Artistic	<input type="checkbox"/> Generous	<input type="checkbox"/> Philosophical	<input type="checkbox"/> Uncooperative
<input type="checkbox"/> Assertive	<input type="checkbox"/> Haphazard	<input type="checkbox"/> Pleasant	<input type="checkbox"/> Uncreative
<input type="checkbox"/> Bashful	<input type="checkbox"/> Harsh	<input type="checkbox"/> Practical	<input type="checkbox"/> Undemanding
<input type="checkbox"/> Bold	<input type="checkbox"/> Helpful	<input type="checkbox"/> Prompt	<input type="checkbox"/> Undependable
<input type="checkbox"/> Bright	<input type="checkbox"/> High-strung	<input type="checkbox"/> Quiet	<input type="checkbox"/> Unemotional
<input type="checkbox"/> Careful	<input type="checkbox"/> Imaginative	<input type="checkbox"/> Relaxed	<input type="checkbox"/> Unenvious
<input type="checkbox"/> Careless	<input type="checkbox"/> Imperceptive	<input type="checkbox"/> Reserved	<input type="checkbox"/> Unexcitable
<input type="checkbox"/> Cold	<input type="checkbox"/> Imperturbable	<input type="checkbox"/> Rude	<input type="checkbox"/> Unimaginative
<input type="checkbox"/> Complex	<input type="checkbox"/> Impractical	<input type="checkbox"/> Self-pitying	<input type="checkbox"/> Uninquisitive
<input type="checkbox"/> Conscientious	<input type="checkbox"/> Inconsistent	<input type="checkbox"/> Selfish	<input type="checkbox"/> Unintellectual
<input type="checkbox"/> Considerate	<input type="checkbox"/> Inefficient	<input type="checkbox"/> Shallow	<input type="checkbox"/> Unintelligent
<input type="checkbox"/> Cooperative	<input type="checkbox"/> Inhibited	<input type="checkbox"/> Shy	<input type="checkbox"/> Unkind
<input type="checkbox"/> Creative	<input type="checkbox"/> Innovative	<input type="checkbox"/> Simple	<input type="checkbox"/> Unreflective
<input type="checkbox"/> Daring	<input type="checkbox"/> Insecure	<input type="checkbox"/> Sloppy	<input type="checkbox"/> Unrestrained
<input type="checkbox"/> Deep	<input type="checkbox"/> Intellectual	<input type="checkbox"/> Steady	<input type="checkbox"/> Unsophisticated
<input type="checkbox"/> Demanding	<input type="checkbox"/> Introspective	<input type="checkbox"/> Sympathetic	<input type="checkbox"/> Unsympathetic
<input type="checkbox"/> Disorganized	<input type="checkbox"/> Introverted	<input type="checkbox"/> Systematic	<input type="checkbox"/> Unsystematic
<input type="checkbox"/> Distrustful	<input type="checkbox"/> Irritable	<input type="checkbox"/> Talkative	<input type="checkbox"/> Untalkative
<input type="checkbox"/> Efficient	<input type="checkbox"/> Jealous	<input type="checkbox"/> Temperamental	<input type="checkbox"/> Verbal
<input type="checkbox"/> Emotional	<input type="checkbox"/> Kind	<input type="checkbox"/> Thorough	<input type="checkbox"/> Vigorous
<input type="checkbox"/> Energetic	<input type="checkbox"/> Moody	<input type="checkbox"/> Timid	<input type="checkbox"/> Warm

APPENDIX C

### Relational Style Inventory

*Instructions:* The following statements concern how you feel in *relationships*. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

Disagree strongly		Neutral/mixed		Agree strongly
1	2	3	4	5
				6
				7

- \_\_\_ 1. I prefer not to show others how I feel deep down.
- \_\_\_ 2. I worry about being abandoned.
- \_\_\_ 3. I am very comfortable being close to others.
- \_\_\_ 4. I worry a lot about my relationships.
- \_\_\_ 5. Just when others start to get close to me I find myself pulling away.
- \_\_\_ 6. I worry that others won't care about me as much as I care about them.
- \_\_\_ 7. I get uncomfortable when others want to be very close.
- \_\_\_ 8. I worry a fair amount about my relationships ending.
- \_\_\_ 9. I don't feel comfortable opening up to others.
- \_\_\_ 10. I often wish that others' feeling for me were as strong as my feelings for them.
- \_\_\_ 11. I want to get close to others, but I keep pulling back.
- \_\_\_ 12. I often want to merge completely with others, and this sometimes scares them away.
- \_\_\_ 13. I am nervous when others get too close to me.
- \_\_\_ 14. I worry about being alone.
- \_\_\_ 15. I feel comfortable sharing my private thoughts and feelings with others.
- \_\_\_ 16. My desire to be close sometimes scares people away.
- \_\_\_ 17. I try to avoid getting too close to people.
- \_\_\_ 18. I need a lot of reassurance that I am loved by others.
- \_\_\_ 19. I find it relatively easy to get close to others.

- | Disagree strongly |   |   | Neutral/mixed |   |   | Agree strongly |
|-------------------|---|---|---------------|---|---|----------------|
| 1                 | 2 | 3 | 4             | 5 | 6 | 7              |
- \_\_\_ 20. Sometimes I feel that I force others to show more feeling, more commitment.
- \_\_\_ 21. I find it difficult to allow myself to depend on other people.
- \_\_\_ 22. I do not often worry about being abandoned.
- \_\_\_ 23. I prefer not to be too close to others.
- \_\_\_ 24. If I can't get others to show interest in me, I get upset or angry.
- \_\_\_ 25. I tell people I'm in relationships with just about everything.
- \_\_\_ 26. I find that other people don't want to get as close as I would like.
- \_\_\_ 27. I usually discuss my problems and concerns with people I'm in a relationship with.
- \_\_\_ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
- \_\_\_ 29. I feel comfortable depending on others.
- \_\_\_ 30. I get frustrated when people I'm in relationships with aren't around as much as I would like.
- \_\_\_ 31. I don't mind asking others for comfort, advice, or help.
- \_\_\_ 32. I get frustrated if people I'm in relationships with are not available when I need them.
- \_\_\_ 33. It helps to turn to others in times of need.
- \_\_\_ 34. When other people disapprove of me, I feel really bad about myself.
- \_\_\_ 35. I turn to others for many things, including comfort and reassurance.
- \_\_\_ 36. I resent when people I'm in relationships with spend time away from me.

APPENDIX D

Please read the 12 statements below, and circle the number corresponding to how true each response is regarding **your** performance as a camp counselor in the recent camp session.

1. Was able to independently solve problems as they arose.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

2. Was hesitant to seek assistance from others.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

3. Openly showed affection toward the campers.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

4. Got along well with the rest of the camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

5. Was not reliable.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

6. Was responsive to campers' needs.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

7. Was not responsive to feedback from camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

8. Was knowledgeable about the campers' medical conditions.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

9. Effectively communicated with campers AND camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

10. Treated campers with respect.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

11. Was competent in all aspects of his/her duties.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

12. Should not be encouraged to work with chronically ill children in the future.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

Indicate which counselor you are rating by writing his/her name at the top of the page in the space provided. Separate rating forms are included in this packet for each counselor you supervise or work with. Please read the 12 statements below describing a counselor's performance while at summer camp, and circle the number corresponding to how true each response is regarding the counselor you are rating.

1. Was able to independently solve problems as they arose.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

2. Was hesitant to seek assistance from others.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

3. Openly showed affection toward the campers.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

4. Got along well with the rest of the camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

5. Was not reliable.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

6. Was responsive to campers' needs.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

7. Was not responsive to feedback from camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

8. Was knowledgeable about the campers' medical conditions.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

9. Effectively communicated with campers AND camp staff.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

10. Treated campers with respect.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

11. Was competent in all aspects of his/her duties.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

12. Should not be encouraged to work with chronically ill children in the future.

Not at all true		Somewhat true		Completely true
1	2	3	4	5

## APPENDIX E

### Experience with Youth Scale

Please carefully read and then respond to the 10 questions below regarding your experience with children and adolescents.

1. How many children do you have? \_\_\_\_\_ kids.
2. How many siblings do you have who are under the age of 18? \_\_\_\_\_ siblings.
3. How many years (if any) have you worked as a child-care provider in a daycare facility? \_\_\_\_\_ years.
4. How many years (if any) have you worked as a child-care provider in other people's homes? \_\_\_\_\_ years.
5. Have you ever supervised other people working as child-care professionals (YES or NO)? \_\_\_\_\_
6. Have you ever worked as a full-time or substitute teacher (YES or NO)? \_\_\_\_\_
7. How many years (if any) have you worked as a camp counselor at a camp for chronically ill children? \_\_\_\_\_ years.
8. How many years (if any) have you worked as a camp counselor at a camp for non-ill children? \_\_\_\_\_ years.
9. Have you ever worked as a coach for a children's sports team or dance squad (YES or NO)? \_\_\_\_\_
10. Compared to other counselors working at this camp, how much experience would you say you have working with young people? (circle the number that corresponds to your answer).

Much less

1

2

About the same

3

4

Much more

5

## APPENDIX F

### Asthma Beliefs Scale

Please read the 12 statements below about children who have asthma. Please circle the number corresponding to how **YOU** feel regarding how true each of these statements is using the following scale.

<b>Not at all true</b>		<b>Somewhat true</b>		<b>Completely true</b>
1	2	3	4	5
1. Children with asthma should never be left unsupervised when playing outdoors.				
1	2	3	4	5
2. Children who have asthma can do anything that kids without asthma can do.				
1	2	3	4	5
3. I feel sorry for children that have asthma.				
1	2	3	4	5
4. Asthmatic children are generally smarter than kids who do not have asthma.				
1	2	3	4	5
5. Children with asthma are very friendly.				
1	2	3	4	5
6. Children who have asthma tend to want to stay close to their parents.				
1	2	3	4	5
7. Children with asthma are able to manage their illness with little help from others.				
1	2	3	4	5
8. Asthmatic children often have lots of discipline problems.				
1	2	3	4	5
9. Children who have asthma are usually shy.				
1	2	3	4	5
10. Children with asthma can never really lead normal lives.				
1	2	3	4	5
11. Asthmatic children are usually sad or unhappy.				
1	2	3	4	5
12. Children with asthma are always ready to help others in need.				
1	2	3	4	5

### Diabetes Beliefs Scale

Please read the 12 statements below about children who have diabetes. Please circle the number corresponding to how **YOU** feel regarding how true each of these statements is using the following scale.

<b>Not at all true</b>		<b>Somewhat true</b>		<b>Completely true</b>
1	2	3	4	5
1. Children with diabetes should never be left unsupervised when playing outdoors.				
1	2	3	4	5
2. Children who have diabetes can do anything that kids without asthma can do.				
1	2	3	4	5
3. I feel sorry for children that have diabetes.				
1	2	3	4	5
4. Asthmatic children are generally smarter than kids who do not have diabetes.				
1	2	3	4	5
5. Children with diabetes are very friendly.				
1	2	3	4	5
6. Children who have diabetes tend to want to stay close to their parents.				
1	2	3	4	5
7. Children with diabetes are able to manage their illness with little help from others.				
1	2	3	4	5
8. Diabetic children often have lots of discipline problems.				
1	2	3	4	5
9. Children who have diabetes are usually shy.				
1	2	3	4	5
10. Children with diabetes can never really lead normal lives.				
1	2	3	4	5
11. Diabetic children are usually sad or unhappy.				
1	2	3	4	5
12. Children with diabetes are always ready to help others in need.				
1	2	3	4	5

APPENDIX G

### Asthma Experience Scale

Please carefully read and answer the 15 questions listed below regarding your experience with asthma. Skip any questions that do not pertain to you.

1. Do you have asthma (YES or NO)? \_\_\_\_\_

**If you answered YES to question #1, please go on to #2. If you answered NO to question #1, please go on to #7.**

2. If yes to number 1, how many years ago were you first diagnosed with asthma? \_\_\_\_\_ years ago.

3. If yes to number 1, have you ever been hospitalized because of your asthma (YES or NO)? \_\_\_\_\_

4. If yes to number 1, are you currently taking prescription medicine(s) for your asthma (YES or NO)? \_\_\_\_\_

5. If yes to number 1, have you ever missed a day or more of school/work because of your asthma (YES or NO)? \_\_\_\_\_

6. If yes to number 1, have you ever had a near-fatal asthma attack (YES or NO)? \_\_\_\_\_

7. Do you have any other chronic illness or illnesses (YES or NO)? \_\_\_\_\_

8. How many of your first-degree relatives (for example: parent, sibling, child, spouse) have asthma? \_\_\_\_\_ relatives.

9. How many people who are close to you (friends and/or family) other than first-degree relatives have asthma? \_\_\_\_\_ people.

10. Is this the first year you have been a camp counselor at a camp specifically for children with asthma (YES or NO)? \_\_\_\_\_

11. How many years (if any) have you been a camp counselor at a camp for children with asthma (not including this year)? \_\_\_\_\_ years.

12. How many years (if any) have you been a camp counselor at a camp for children with other chronic illnesses? \_\_\_\_\_ years.

13. Have you ever supervised other counselors working at a camp for children with asthma (YES or NO)? \_\_\_\_\_

14. Have you ever had to take someone with asthma to the emergency room because of complications related to their illness (YES or NO)? \_\_\_\_\_

15. Have you ever received Cardiopulmonary Resuscitation (CPR) certification (YES or NO)? \_\_\_\_\_

### Diabetes Experience Scale

Please carefully read and answer the 15 questions listed below regarding your experience with diabetes. Skip any questions that do not pertain to you.

1. Do you have diabetes (YES or NO)? \_\_\_\_\_

**If you answered YES to question #1, please go on to #2. If you answered NO to question #1, please go on to #7**

2. If yes to number 1, how many years ago were you first diagnosed with diabetes? \_\_\_\_\_ years ago.

3. If yes to number 1, have you ever been hospitalized because of your diabetes (YES or NO)? \_\_\_\_\_

4. If yes to number 1, are you currently taking prescription medicine(s) (including insulin) for your diabetes (YES or NO)? \_\_\_\_\_

5. If yes to number 1, how many times per day has the doctor prescribed that you test your blood-glucose? \_\_\_\_\_ times per day.

6. If yes to number 1, how many times per day has the doctor prescribed that you have an insulin injection? \_\_\_\_\_ times per day.

7. Do you have any other chronic illness or illnesses (YES or NO)? \_\_\_\_\_

8. How many of your first-degree relatives (for example: parent, sibling, child, spouse) have diabetes? \_\_\_\_\_ relatives.

9. How many people who are close to you (friends and/or family) other than first-degree relatives have diabetes? \_\_\_\_\_ people.

10. Is this the first year you have been a camp counselor at a camp specifically for children with diabetes (YES or NO)? \_\_\_\_\_

11. How many years (if any) have you been a camp counselor at a camp for children with diabetes (not including this year)? \_\_\_\_\_ years.

12. How many years (if any) have you been a camp counselor at a camp for children with other chronic illnesses? \_\_\_\_\_ years.

13. Have you ever supervised other counselors working at a camp for children with diabetes (YES or NO)? \_\_\_\_\_

14. Have you ever had to take someone with diabetes to the emergency room because of complications related to their illness (YES or NO)? \_\_\_\_\_

15. Have you ever received Cardiopulmonary Resuscitation (CPR) certification (YES or NO)? \_\_\_\_\_

APPENDIX H

## ASTHMA KNOWLEDGE QUESTIONNAIRE

**DIRECTIONS:** Read each question carefully and pick ONE answer that is right. Circle the letter next to the answer that you choose. Some questions may ask about information that you have not learned yet. If you do **NOT** know the answer to the question, please circle "E" and do **NOT** guess. Be sure to answer all the items on BOTH SIDES of the page.

1. If a child starts waking up at night (more than once a month) from coughing or wheezing, you should:
  - A. Call the asthma doctor to discuss the child's asthma medicine.
  - B. NOT allow the child to drink water after dinner.
  - C. Take the child to the Emergency Room right away.
  - D. Ask the child's asthma doctor for some sleep medicine.
  - E. I do NOT know the answer.
  
2. If you had to call a doctor to discuss a child's asthma problems, you will need to tell the doctor the child's symptoms, peak flow rate (if taken), and \_\_\_\_\_.
  - A. Blood pressure.
  - B. Temperature and current weight.
  - C. Medicines your child took and when they were taken.
  - D. When the child was diagnosed with asthma.
  - E. I do NOT know the answer.
  
3. If animals with hair or fur trigger a child's asthma you should:
  - A. Have the pet shampooed once a month.
  - B. Keep the pet's hair short.
  - C. NOT allow the pet in the house.
  - D. Get the pet a long lasting flea collar.
  - E. I do NOT know the answer.
  
4. What should a child do if he or she will be doing something, such as playing sports, that you know brings on an asthma attack?
  - A. Never do anything that makes it hard for him or her to breathe.
  - B. Use an inhaler (bronchodilator) before doing the activity.
  - C. Use an inhaler (bronchodilator) only after the child feels symptoms.
  - D. Do NOT worry about it and the asthma attack probably will NOT happen.
  - E. I do NOT know the answer.
  
5. What is the BEST way for most children to STOP an asthma episode?
  - A. Breathing hard and fast for three (3) minutes.
  - B. Eating something sweet.
  - C. Catching it early and taking his or her medicine.
  - D. Taking a nap.
  - E. I do NOT know the answer.

6. \_\_\_\_\_ are things that bother an asthmatic child's airways.
- A. Nebulizers
  - B. Ulcers
  - C. Steroids
  - D. Triggers
  - E. I do NOT know the answer.
7. For people with asthma, breathing someone's cigarette smoke can:
- A. Be OK if it is just a little bit of smoke.
  - B. Be OK if the smoke is on the other side of the house.
  - C. Bother the lungs and cause coughing and wheezing.
  - D. Cause other people to catch asthma.
  - E. I do NOT know the answer.
8. Why might a child "forget" to take medicine that is used to PREVENT asthma attacks?
- A. Because asthma medicine can give your child a bad memory.
  - B. Because the child cannot feel the medicine working right away.
  - C. To keep from hearing and seeing things that really are NOT there.
  - D. To keep from taking the medicine too much.
  - E. I do NOT know the answer.
9. If a child takes asthma medication and another doctor gives him or her a different medicine, like for the flu, you should:
- A. Ask the child's school nurse what to do.
  - B. Give the child's asthma medicine with the new medicine.
  - C. Stop giving the child's asthma medicine until the new medicine is finished.
  - D. Ask the doctor ordering the new medicine if it is safe for your child to take with his or her asthma medicine.
  - E. I do NOT know the answer.
10. Why should a child with asthma stay away from dust, smoke, and strong perfume?
- A. Because all of these can trigger an asthma attack
  - B. Because all of these cause cancer
  - C. To improve your child's sense of smell
  - D. To help get rid of pollution
  - E. I do NOT know the answer.
11. People with asthma have:
- A. Short airways.
  - B. Airways that are easily bothered by things like dust and smoke.
  - C. Airways that are missing muscle.
  - D. Airways that have less mucus.
  - E. I do NOT know the answer.

12. What type of medicine should a child with asthma ALWAYS carry with him or her?
- A. Peak flow meter
  - B. Aspirin or Ibuprofen
  - C. Inhaled steroids (Preventer medicine)
  - D. A bronchodilator (Rescue medicine)
  - E. I do NOT know the answer.
13. If a child begins to wheeze and cough during exercise you should:
- A. Have the child exercise harder and faster for the next two (2) weeks.
  - B. NOT allow the child to exercise at all for the next two (2) weeks.
  - C. Call the child's asthma doctor right away.
  - D. Have the child use a bronchodilator inhaler (rescue medicine) before exercising in the future.
  - E. I do NOT know the answer.
14. What can bring on an asthma episode?
- A. Cold or flu
  - B. Cancer
  - C. Bright light or sunshine
  - D. Being too thin (underweight)
  - E. I do NOT know the answer.
15. Which symptom can be an early warning sign for an asthma attack coming on?
- A. Bruises on legs and arms
  - B. Cough or chest tightness
  - C. Low blood sugar
  - D. Joints ache or hurt
  - E. I do NOT know the answer.
16. What causes wheezing in people with asthma?
- A. Airways have too much air.
  - B. Blood sugar gets too high.
  - C. Blood pressure gets too low.
  - D. Airways become tight.
  - E. I do NOT know the answer.
17. A pharmacist in the drug store can:
- A. Only supply medication
  - B. Answer questions about medications and their side effects
  - C. Prescribe medications for asthma
  - D. Diagnose asthma
  - E. I do NOT know the answer.

18. If a child has allergies to dust mites, you should:
- A. Keep the house as warm and dry as possible.
  - B. Use a special cover on the child's mattress and wash his or her foam pillow in hot water weekly.
  - C. Allow the child to use only feather pillows since the dust mites will not live there.
  - D. Spray the child's room with Lysol® each night before bedtime.
  - E. I do NOT know the answer.
19. Long-term daily use (more than 2 weeks straight) of oral steroids (prednisone, Prelone®, Medrol®, Pediapred®) can lead to:
- A. Slowing growth, puffiness, and eye cataracts.
  - B. Lower blood pressure and lower heart rate.
  - C. Hair loss and weight loss.
  - D. Wheezing, shortness of breath, and shaking.
  - E. I do NOT know the answer.
20. Before starting to take a 5-day course ("burst") of oral steroids (prednisone, Pediapred®, Prelone®, Medrol®), an asthmatic child should:
- A. Take peak flow readings at least 7 times a day.
  - B. Stay out of school for at least one week.
  - C. NOT take any other asthma medications.
  - D. Call his or her asthma doctor.
  - E. I do NOT know the answer.
21. When authority figures try NOT to discipline children with asthma because they are afraid it will start an asthma episode:
- A. The child may become very controlling and manipulative of them.
  - B. The child will have fewer asthma attacks.
  - C. Other children will discipline the child instead.
  - D. The child will make better grades at school.
  - E. I do NOT know the answer.
22. If a child looks pale, is wheezing, complains that he or she cannot breathe, and then loses consciousness (can no longer be awakened or aroused), you should:
- A. Give the child some medication and wait to see if your child wakes up.
  - B. Have the child breathe into a paper bag.
  - C. Have the child lay down and put his or her legs up high on some pillows.
  - D. Call 911 right away.
  - E. I do NOT know the answer.
23. If a child is sent to school with medication and a written note giving permission and directions for how the child takes medication, the school:
- A. Must call the child's doctor to make sure it is OK.
  - B. Cannot refuse to give medicine to the child.
  - C. Will likely refuse to give medicine to the child.
  - D. Will assess a fee for seeing the school nurse.
  - E. I do NOT know the answer.

24. What should you do if the mist stops on a nebulizer but you can see more medicine on the sides of the medicine chamber?
- A. Clean out the chamber and start over.
  - B. Tap the side of the chamber until the mist starts again.
  - C. Call the doctor right away.
  - D. Unplug the machine and try again later.
  - E. I do NOT know the answer.
25. Which of the following is the correct way to care for a child's nebulizer?
- A. Microwave the tubing for 5 minutes to disinfect it when it looks dirty.
  - B. Get a new nebulizer kit every 2 weeks even if you have not used it.
  - C. Change or clean filter and disinfect tubing in approved cleaning fluid.
  - D. The nebulizer does NOT need cleaning because it is always free of germs.
  - E. I do NOT know the answer.
26. What should you do if a child's nebulizer helps when he or she is having an asthma attack, but only works for 30 minutes?
- A. Have the child take a double dose of preventer medicine.
  - B. Call the child's asthma doctor.
  - C. Take the child to the emergency room right away.
  - D. Have the child take a nap and try again later.
  - E. I do NOT know the answer.
27. If a child uses a Bronchodilator inhaler (Rescue medicine), through either a nebulizer or metered dose inhaler (MDI), 5 times in the past 8 hours, that is:
- A. NOT enough times to help with wheezing.
  - B. Too often because it shows that the child may need additional medication.
  - C. Exactly how often the child should take this medicine.
  - D. OK if the child is at least 12 years old.
  - E. I do NOT know the answer.
28. When using a metered dose inhaler (MDI) it is important for a child to:
- A. Hold his or her breath for about 10 seconds after your child breathes in the medicine.
  - B. Breathe in quickly and then breathe out without holding his or her breath.
  - C. Take two (2) puffs and then hold his or her breath.
  - D. Always take four (4) puffs each time.
  - E. I do NOT know the answer.
29. What should you do if a child's inhaler helps when he or she is having an asthma attack, but only works for 30 minutes?
- A. Have the child take a double dose of preventer (like steroids) medicine.
  - B. Call the child's asthma doctor.
  - C. Take the child to the emergency room right away.
  - D. Have the child take a nap and try again later.
  - E. I do NOT know the answer.

30. A \_\_\_\_\_ is used for inhaled medications with younger children or children having problems using an inhaler.
- A. Spirometer
  - B. Trigger or cue
  - C. Spacer or chamber
  - D. Peak flow meter
  - E. I do NOT know the answer.
31. When using a peak flow meter, a child should blow:
- A. Hard, but slow.
  - B. Hard and fast.
  - C. Soft and slow.
  - D. Soft, but fast.
  - E. I do NOT know the answer.
32. When taking a child's peak flow reading you should have the child blow three times into the peak flow meter (resetting it to zero each time) and then:
- A. Average the three numbers
  - B. Choose the highest number
  - C. Choose the lowest number
  - D. Take the difference between the highest and lowest number
  - E. I do NOT know the answer.
33. Peak flow meters can help people with asthma know:
- A. That they are having problems breathing only after they have an asthma attack.
  - B. That they are having problems breathing even before they feel it.
  - C. How high their blood pressure is.
  - D. How fast they are breathing.
  - E. I do NOT know the answer.

**DIABETES KNOWLEDGE QUESTIONNAIRE**

**DIRECTIONS:** Read each question carefully and decide which choice best completes the statement or answers to the questions. Circle the letter of your choice. Be sure to answer all the items on BOTH SIDES of the page.

1. When giving insulin injections, you should:
  - A. inject into the same area
  - B. inject into a different area
  - C. inject only in the leg
  - D. I don't know
  
2. A person with diabetes should eat:
  - A. only when hungry
  - B. only lunch and dinner
  - C. regular meals
  - D. I don't know
  
3. Routine urine tests or blood tests for sugar should be done:
  - A. just before meals
  - B. one hour after meals
  - C. anytime during the day
  - D. I don't know
  
4. Diabetes is:
  - A. curable
  - B. goes away with age
  - C. controllable
  - D. I don't know
  
5. It is important for the person with diabetes to take insulin:
  - A. about the same time every day
  - B. whenever he/she remembers to
  - C. before every meal
  - D. I don't know
  
6. When a person with diabetes begins to have a reaction he/she should immediately:
  - A. take some insulin
  - B. lie down and rest
  - C. eat some form of sugar
  - D. I don't know

7. Insulin dosage is measured by:
- A. ounces
  - B. drops
  - C. units
  - D. I don't know
8. If you have a large amount of sugar in your urine and blood, the glucometer reading would be:
- A. higher than usual
  - B. lower than usual
  - C. the same as usual
  - D. I don't know
9. When your urine test or chemstrip comes out high for sugar, you should:
- A. lie down and rest
  - B. test for ketones
  - C. eat something soon
  - D. I don't know
10. A person with diabetes should be able to exercise:
- A. only a little
  - B. as much as a person without diabetes
  - C. only if they take insulin before exercising
  - D. I don't know
11. When fasting, your glucometer reading should be closest to:
- A. 35
  - B. 99
  - C. 205
  - D. I don't know
12. Insulin is normally produced in the:
- A. kidneys
  - B. pancreas
  - C. liver
  - D. I don't know
13. Diabetes is caused by:
- A. eating too much sugar and other sweet foods
  - B. not enough insulin in the body
  - C. sugar in the urine
  - D. I don't know

14. Exercise:

- A. lowers the blood sugar level
- B. raises the blood sugar level
- C. increases sugar in the urine
- D. I don't know

15. Regular insulin is:

- A. cloudy
- B. clear
- C. bluish
- D. I don't know

16. The action of Lente insulin is the same as:

- A. regular
- B. quick acting
- C. NPH
- D. I don't know

17. When a person with diabetes has an insulin reaction, the amount of sugar in his/her blood is:

- A. usually normal
- B. usually high
- C. usually low
- D. I don't know

18. Insulin:

- A. lowers the blood sugar level
- B. raises the blood sugar level
- C. increases sugar in the urine
- D. I don't know

19. Which of the following complications is usually not associated with diabetes:

- A. changes in the lungs
- B. changes in the kidneys
- C. changes in vision
- D. I don't know

20. In untreated diabetes the blood sugar is usually:

- A. normal (not too high but not too low)
- B. decreased (too low)
- C. increased (too high)
- D. I don't know

21. Which one of the following may cause an insulin reaction:
- A. infection
  - B. forgetting to take your insulin
  - C. playing hard or exercising a lot
  - D. I don't know
22. Regular insulin:
- A. works fast
  - B. works a long time
  - C. takes a long time to start working
  - D. I don't know
23. You use additional regular insulin when you:
- A. feel shaky, sweaty and hungry
  - B. are spilling large amounts of glucose and ketones in your urine
  - C. are about to play tennis
  - D. I don't know
24. When the urine contains ketones, it means:
- A. you took too much insulin
  - B. your body is using fat for energy
  - C. you played too hard
  - D. I don't know
25. In which parts of the body can diabetes complications appear:
- A. ears and skin
  - B. eyes and kidneys
  - C. stomach and lungs
  - D. I don't know
26. When a person with diabetes plays or exercises a lot, he/she needs:
- A. less insulin
  - B. more insulin
  - C. to eat less
  - D. I don't know
27. People with diabetes:
- A. may have complications later in life
  - B. will never have complications
  - C. only have complications if they don't take their insulin
  - D. I don't know

28. People with diabetes should:
- A. eat only dietetic food
  - B. never eat any sweets
  - C. eat a well-balanced diet the whole family can eat
  - D. I don't know
29. Which of the following symptoms might suggest to the person with diabetes that too little insulin is being taken:
- A. decrease in thirst
  - B. cold sweat, shaking
  - C. increase in urination
  - D. I don't know
30. Ketones in the urine of a person with diabetes is:
- A. a warning sign of an insulin reaction
  - B. a warning sign of acidosis
  - C. a warning sign of hypoglycemia
  - D. I don't know
31. An insulin reaction or insulin shock is caused by:
- A. too much insulin in the body
  - B. too little insulin in the body
  - C. too little exercise
  - D. I don't know
32. Lente and NPH insulins last for:
- A. 8 hours
  - B. 24 hours
  - C. 36 hours
  - D. I don't know
33. When a person with diabetes who routinely uses insulin becomes ill with an infection, he/she frequently requires:
- A. more insulin
  - B. less insulin
  - C. no insulin
  - D. I don't know
34. Which of the following things that can happen to you will most probably change the amount of insulin that you need:
- A. you get the flu
  - B. you are just starting piano lessons
  - C. your report card was much worse than you thought it would be
  - D. I don't know

35. Sugar, starch and fruit are all:
- A. carbohydrates
  - B. proteins
  - C. fats
  - D. I don't know
36. The food groups that have carbohydrates in them are:
- A. fat, protein
  - B. fruit, starch, milk
  - C. free foods, fats, proteins
  - D. I don't know
37. A low blood sugar level is called:
- A. Glycosuria
  - B. Hyperglycemia
  - C. Hypoglycemia
  - D. I don't know
38. If you took regular insulin at 7:00 a.m., an insulin reaction is most likely to happen at around:
- A. 10:00 – 11:00 in the morning
  - B. 9:00 – 10:00 in the evening
  - C. 3:00 – 5:00 in the afternoon
  - D. I don't know
39. If you took NPH or Lente insulin at 7:00 a.m., an insulin reaction is most likely to happen at around:
- A. 12:00 noon
  - B. 3:00 – 5:00 in the afternoon
  - C. 9:00 – 10:00 in the evening
  - D. I don't know

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