Psycho-Social Benefits
of a Service-Learning Experience

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The purpose of this study was to explore the relationships between wisdom and values within a service-learning environment and to determine the effects such an experience can have on one's growth in values and wisdom. The sample consisted of 115 high-school students, ages 14-19, who attended a 9-day service-learning trip. Pearson correlations and linear regression analyses were utilized to determine the relationship between wisdom, values, and personal items. Paired t-tests were used to determine the effects of the program on wisdom and values. Wisdom was found to be significantly correlated to pro-social values on the pre-trip measurements. Significant increases were reported for all three wisdom domains and for pro-social values as a result of trip participation.

Service learning has been defined as "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (Jacoby, 1996, p. 5). It has also been referred to as "citizenship education," a term that emphasizes a concern for the social good (Delve, Mintz, & Stewart, 1990). It is reasoned that intentionally-designed experiences, combined with purposeful reflection, can prepare learners to be active participants in a democratic community. The philosophy of John Dewey (1897/1998) is central to the theory of experiential education emphasizing that education is not just a preparation for future vocation but a continual process through which one learns from life experiences.

The current rate of social change may render any collection of educational or vocational techniques obsolete within the time it takes to master them. This idea is expressed by Eric Hoffer (1972, p. 32): "In times of drastic change, it is the learners who inherit the future. The learned usually find themselves beautifully equipped to live in a world that no longer exists."

According to Dewey (1897/1998), the best method of education in a dynamic culture is to "give one command of himself; it means so to train him that he will have the full and ready use of all his capacities" (p. 230). In this way, the learner can evaluate new situations and respond accordingly.

By reflecting on life experiences one can make connections to other information and experiences, which then leads to an enhanced perception of meaning (Dewey, 1934). In order for experience to lead to meaning it must occur within a specific context (setting or milieu) and generate tension through challenges (physical, mental, or emotional). It is reasoned that this tension motivates the participant to adapt to the situation, which generally results in growth through a transformation of knowledge, beliefs, or values. This growth may then become a continuous process as new knowledge is applied to new contexts, leading to increased meaning and fulfillment.

Service-learning satisfies Dewey's philosophy (1897/1998) by providing participants with a variety of experiences in "real world" settings. Community-based service projects may challenge participants with concrete societal problems like poverty, cultural diversity, and/or broken families. A great deal of research has been done on the benefits and outcomes of service-learning experiences (see Berger & Milem, 2002; Fredericksen, 2000; Lakin & Mahoney, 2006; Lundy, 2007). Service-learning has been found to improve students' test scores and behavior (Scales, Roehlkepartain, Neal, Kielsmeier, & Benson, 2006). In addition to the academic benefits, students who participate in these experiences are also thought to progress in developmental outcomes such as civility and morality (Delve et al., 1990; Waldstein & Reiher, 2001; Youniss, McLellan & Yates, 1997). Lessons of civility and morality are crucial during the adolescent stage of human development as youth are learning to balance an emerging sense of independence with a strong desire to connect with others (Baltes & Silverberg, 1994).

As such, many schools are developing ways to implement service-learning into the curriculum. Spring, Dietz, and Grimm (2006) found in a 1999 survey that 83% of high schools reported opportunities for community service activities compared to 27% in 1984. More than one-third (36%) of youth polled had participated in community service as part of a school activity or requirement.

As an academic supplement, these experiences are often measured in terms of their influence on academic performance, integration into the school community, behavior within the school context, and vocational preparation. While these outcomes are important, their situational nature limits our ability to understand how service-learning may contribute to the broader picture of human development. This study attempts to deepen the understanding of how service-learning affects youth by evaluating the influence a service-learning experience may have on an adolescent's growth toward wisdom.

Though it is a relatively new outcome variable in psychological literature, wisdom represents a long-term and complex measurement of human development that has been the focus of writers and philosophers for centuries. Growth in wisdom could represent a fundamental change in the way an individual views the world and, subsequently, their motivation to act in a variety of civil contexts. If service-learning improves knowledge and character then it may follow that these experiences also aid in the development of overall wisdom. The purpose of this study was to explore the relationships between wisdom and values within a service-learning environment; and determine the effects such an experience can have on one's values and growth toward wisdom. Prior to outlining the methods used in this study, a review of the literature on wisdom frames the study and supports the use of wisdom as a dependant variable worthy of empirical research.

Wisdom

Wisdom has never lost its association with the proper direction of life. Only in education, never in the life of the farmer, sailor, merchant, physician or laboratory experimenter, does knowledge mean primarily a storage of

information aloof from doing. (Dewey, 1916, p. 185)

Wisdom is becoming an increasingly popular topic in psychology, education, and other related fields but remains somewhat elusive due to divergent preconceptions of the term (Assmann, 1994). Research indicates that wise individuals possess rich knowledge and experience in matters of the human condition, self-knowledge, openness for new experiences, ability to learn from mistakes, and good intentions in action (Baltes, Gluck, & Kunzmann, 2005). Wisdom is thought to arise from intense learning and practice within a social-cultural environment that encourages the search for wisdom. It emerges as a result of a variety of experiences that interact and collaborate and involves the orchestration of many psycho-social factors including cognitive, personal, social, and spiritual. In addition, wisdom is reasoned to be developed through "the guidance of mentors and the mastery of critical life experiences" (Baltes et al., p. 332).

As a multi-dimensional construct, wisdom represents an ideal measure of human performance based on the balance of several intrapersonal subsystems (Sternberg, 1998). Though traditionally it has been seen as an exclusive virtue of the elderly, recent research has challenged these assumptions. The "seeds" of wisdom may be evident even in early adolescence and some studies have concluded that wisdom performance increases sharply between the ages of 15 and 25 (Pasupathi, Staudinger & Baltes, 2001; Richardson & Pasupathi, 2005). Few studies have been done to determine the impact of "interventions" in facilitating wisdom. However, there is support that an intentional intervention would need to include direct experiences that incorporate cognitive and affective factors and ample opportunity for reflection. In addition, these experiences should occur within a variety of social contexts and include the opportunity for group collaboration as well as moral challenges that allow for some degree of profundity (Staundinger & Baltes, 1996; Webster, 2003). Processing these experiences through personal and group reflection can transform newly-learned knowledge into wisdom, transforming the individual in the process (Ardelt, 2003). An intense service-learning trip could provide a setting that includes all of these elements.

According to research, wisdom can be defined as the integration of cognition, affection, reflection, and volition (Ardelt, 2004; Birren & Fisher, 1990). All of these sub-domains are thought to be necessary in order to produce wisdom, though none

are considered sufficient in themselves. *Cognition* refers to one's desire to understand life on a deep level and to know truth. This domain includes a concern for intrapersonal and interpersonal matters and an acceptance of human nature, limitations of knowledge, and of life's uncertainties. The *affective* domain regards sympathetic and compassionate love for others. *Reflection* is the tendency to examine oneself, know oneself, and consider matters from different perspectives. The latter domain has been identified as the "hub" of wisdom as it is supposed to stimulate deep thought and compassion (Ardelt, 2004). The final domain, *volition*, involves the negotiation of personal and interpersonal beliefs and values in order to choose a course of action in favor of the common good (Pascual-Leone, 1990; Sternberg, 1998).

For the purpose of this study, values are defined as "concepts or beliefs that pertain to desirable end states or behaviors, transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance" (Schwartz & Bilsky, 1990, p. 878). Values are thought to motivate and mediate one's choices and actions. As such, an understanding of a "wise" rating of values could give insight into the making of wise choices of action. For example, previous research has linked high levels of wisdom-related knowledge to a preference for values that consider the welfare of others (Kunzmann & Baltes, 2003). This study could validate previous research with the use of different measurements, as well as give further insight into the relationship of values and wisdom sub-domains.

Methodology

Instrumentation

Ardelt's (2003) 3-Dimensional Wisdom Scale (3DWS) was used to measure affection, cognition, and reflection, which are reasoned to be indicators of wisdom. The 3DWS is a 39-item questionnaire that utilizes a Likert scale format (1 = strongly agree, 5 = strongly disagree). The affective dimension consists of 13 items (e.g., "I can be comfortable with all kinds of people;" "If I see people in need, I try to help them one way or another"). The cognitive dimension consists of 14 items (e.g., "People are either good or bad;" "I am hesitant about making important decisions after thinking about them"). The reflective dimension consists of 12 items (e.g., "When I'm upset at someone, I usually try to put myself in their shoes for a while;" "I always try to look at all sides of a problem"). Wisdom is considered

to be a latent variable that is evidenced by the effect factors of the three sub-domains. The three subscales are dispersed throughout the questionnaire and several items are reverse-scored. Cronbach's alpha values for the affective, cognitive, and reflective domains of the 3DWS are .74, .78, and .75 respectively and have an overall range of .71 to .85 (Ardelt).

Volition was measured using the Rokeach Values Scale (RVS), a well-established instrument that helps determine an individual's motivation to act (Braithwaite & Law, 1985). The RVS asks individuals to rate the importance of 36 separate values as guiding principles in their lives. The original version of the Rokeach instrument required participants to rank each value from 1 to 36 in order of importance. Due to the age of the participants in this study, inclusion of other instruments, and practical time constraints, the ordinal ranking of 36 items was deemed too cumbersome. Participants were instead asked to rate the importance of each value using a 7-point Likert scale (1= not at all important, 7= most important) as proposed by Braithwaite and Law.

Individual values were categorized into value domains based on the work done by Schwartz and Bilsky (1987, 1990). By their definition:

A value is an individual's concept of a transituational *goal* (terminal/instrumental), that expresses *interests* (individualistic, collectivistic, mixed) concerned with a *motivational domain* (enjoyment…power) and is evaluated on a range of importance (very important to unimportant) as a guiding principle in his/her life. (1987, p. 553)

Schwartz and Bilsky (1990) established seven motivational domains based on the "universal types of motivational concern that values express" (p. 879). These domains are pro-social (e.g. helpful), restrictive conformity (e.g. obedient), enjoyment (e.g. pleasure), achievement (e.g. ambitious), self-direction (e.g. independent), maturity (e.g. courageous), and security (e.g. national security). These value-domains are reasoned to be the basis of one's motivation to act, thereby anticipating their behavior.

Additional questionnaire items measured personal and demographic information. Educational interest and intent were measured using two items that asked about the participants' current plans for degree attainment (1 = no college, 5 = Ph.D.) and an open-ended question regarding their desired field of study. Involvement in extracurricular activities was measured with a single item to determine the total number of hours per week spent in formal social

groups outside of school (1 = none, 5 = 16 hours or more). Feelings of connectedness to their school community were measured with a single item (1 = not at all, 5 = very strongly connected), as were feelings of family support (1 = not at all, 5 = very well supported), feelings about living away from family (1 = not at all comfortable, 5 = totally comfortable), and whether or not they considered themselves to be a leader (1 = not at all, 5 = very much so). The final instrument packet consisted of 87 total items.

SAMPLE

Participants included 115 high school students, ages 14 to 19 (mean age = 16.6 years), from various schools throughout North Dakota. Females comprised 77% of the sample. These students volunteered to participate in a 9-day service-learning trip organized by Students Today Leaders Forever (STLF), a non-profit organization based in Minneapolis, Minnesota. A signature event of the STLF is the "Pay It Forward" tour, named after the well-known novel of the same title. The primary goal of the tour is to impel youth into civic leadership through active community service.

The 9-day trip took place during fall break in October 2006 and was entirely funded by participant fees. Youth traveled by bus from North Dakota to Tennessee, stayed at various public facilities (e.g., schools, churches, and YMCAs), and participated in a different service activity each day. These trips are characterized by long hours of intense interaction, a lack of creature comforts, and the opportunity to engage in a host of social activities. Activities ranged from cleaning and painting to visiting the elderly and attending local cultural events. In addition to service activities, trip participants frequently engaged in large and small group games and reflective discussions.

PROCEDURES

Trip leaders distributed questionnaires before and immediately after the service-learning trip. A follow-up measurement was mailed to participants 2 months following the trip, but was not included in the analysis due to a low response rate (10%). The low response rate was attributed to the fact that the final measurement was mailed during the holiday season. To minimize bias, participants had no contact with the researcher.

ANALYSIS

Pearson product correlation tests were conducted on pre-trip data to determine the relationships between the two test instruments (3DWS measured affection, cognition, and reflection; RVS measured volition), and between those instruments and personal information. A paired samples t-test was performed to determine the difference in pre- and post-trip scores, and linear regression analyses were utilized to determine which values best predict scores in wisdom domains. Alpha was set at the .05 level for all analyses, but marginally significant results (p < .10) were included where the relationship led to further discussion on the findings.

RESULTS

Cronbach's alpha for the 3DWS (Ardelt, 2003) was acceptable for all three wisdom domains (affective = .73, cognitive = .70, and reflective =.71) indicating that the wisdom construct remains valid when applied to an adolescent population. Pearson product correlations revealed significant relationships between wisdom domains, value domains, and personal questions on the pre-trip assessment (Table 1). Time spent in extra-curricular activities (Club Hours) was found to be significantly related to affection (p = .034), cognition (p = .007), and reflection (p = .004). Self-reported measures of leadership were also related to all three wisdom domains with the relationship to cognition being the most significant. Females tended to score higher in cognitive and affective domains. Scores for the reflective domain were related to age, feelings of school connectedness, and comfort with living away from home.

All three wisdom domains were significantly related to pro-social values (affection p < .001, cognition p = .005, and reflection p = .021), while the enjoyment value domain was negatively related to cognition (p < .001) and reflection (p = .003), and marginally so to affection (p = .06). In addition, the affective domain was significantly related to security (p < .001), maturity (p = .015) and restrictive conformity (p = .021) values.

There were also significant relationships between the personal and demographic variables on the questionnaire. The amount of time spent in extra-curricular activities was significantly related to the students' feelings of connectedness to their school community (p = .01). In addition, feelings of connectedness were significantly related to self-reported measures of leadership (p < .001) and to comfort living away from family (p = .038). Reports of leadership were also significantly related to time spent in extra-curricular activities (p = .023). These findings are summarized in Table 2.

Since wisdom is considered to be a latent variable that is evidenced by the effect indicators of the three sub-domains (Ardelt, 2004), a step-wise, linear regression analysis was performed on total wisdom scores and on each of the three sub-domains independently to determine which factors best predict wisdom scores. A summary of these findings is shown in Table 3. In order

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TABLE 1. Pearson Correlations Among Wisdom Domains and Demographics, Personal Items, and Value Domains

	Affective	Cognitive	Reflective	Total Wisdom
Demographics				
Age	.17	.18	.35**	.29**
Gender (M1, F2)	.28**	.19*	-.05	.17
Personal Items				
Club Hours	.20*	.25**	.27**	.29**
Connected	-.05	.12	.25**	.13
Live Away	-.04	.05	.20*	.08
Leader	.22*	.28**	.24*	.30**
Value Domains				
Enjoyment	-.18	-.35**	-.27**	-.33**
Restrictive Conformity	.22*	-.08	.08	.09
Pro-social	.46**	.26**	.21*	.39**
Security	.33**	.15	.07	.23*
Maturity	.23*	.04	.11	.16
Self-direction	.08	.04	.01	.05
Maturity	.01	-.12	-.01	-.04

* p < .05.
** p < .01.

TABLE 2. Intercorrelations for Personal Lifestyle and Attitude Items

	1	2	3	4	5
1. Club Hours	—				
2. Connected	0.24**	—			
3. Family Support	-0.12	0.15	—		
4. Live Away	0.14	0.19*	-0.18*	—	
5. Leader	0.21*	0.33***	0.01	0.24**	—

* $p < .05$.
** $p < .01$.
*** $p < .001$.

to ascertain the true contribution of values to wisdom, demographic data were entered in step one, personal questions at step two, and the seven motivational value domains were entered into the regression model at step three. This was done to control for the effects of age and gender, as well as social variables (i.e. Club Hours) which were significantly correlated to wisdom domains. With all predictors in the model, the seven motivational value domains accounted for 23.3% of unique variance in the wisdom construct. Significant predictors ($p < .05$) included: enjoyment values (8.1%), age (3.5%), security values (3.4%), and pro-

social values (2.9%). The lack of outstanding individual predictors supports the notion that wisdom is a complex concept that emerges only with the integration of many systems (Baltes & Staudinger, 2000).

Regression analyses for the three independent sub-domains illustrate the complexity of the wisdom construct (Table 4). The seven value domains together accounted for 20.6% of unique variance in the cognition wisdom domain, with the significant unique predictors being enjoyment (8.2%), restrictive conformity (3.8%), and security (3.6%) value domains. The seven value domains together accounted

for 20.7% of unique variance in the affective wisdom domain. Variance in affection was best accounted for by gender (5.2%), pro-social values (3.5%), and enjoyment values (3.6%). Finally, the seven value domains accounted for 13.8% of unique variance in the reflective wisdom domain. Significant predictors for reflection included age (8.6%), enjoyment values (4.8%), and expected educational attainment (3.3%). The only predictor to remain significant across all wisdom domains with all predictors in the model was enjoyment values. These results support the unique contribution of each sub-domain to the wisdom construct and identify predictors that may be salient for each wisdom domain.

The Bonferroni method was utilized to compensate for multiple t-test calculations, which resulted in an alpha of .008. Affective scores showed a significant increase from pre- to post-measurement, as did cognitive and reflective domains ($p < .001$). There was also a significant increase in pro-social ($p < .01$) and a marginal increase in restrictive conformity ($p < .05$) values from pre- to post-test. Significant t-test results are presented in Table 5.

LIMITATIONS

This study was designed to examine the relationships between wisdom and values in a service-learning environment. As such, it provides a number of findings that could serve as the foundation for future research given a fair assessment of its limitations. First, the results are dependent on self-reported measures. There is still some debate as to whether wisdom can be appropriately measured using a self-report instrument (Baltes & Kunzmann, 2004; Webster, 2003). Future research may resolve this issue utilizing a mixed-methods approach, which combines qualitative methods developed by Baltes and Smith (1990) with quantitative measures reported by participants and/or close friends or family who may bear witness to any changes thus described. Due to a low number of follow-up responses, this study also lacks a follow-up measurement that would help determine the long-term effects of the program. As a measure of long-term human development, it would perhaps be appropriate to measure the participants' growth toward wisdom over an extended period of time. Finally, this study lacked a control group. Since wisdom performance has been observed to increase steadily between the ages of 15 and 25 (Pasupathi et al., 2001), it is difficult to claim that any growth toward wisdom was due to the program alone.

TABLE 3. Summary of Hierarchial Multiple Regression Analysis With Wisdom Sub-Domains as Criterion

Step	Predictor Variables	R^2	ΔR^2	ΔF
1	Demographics	.13	.13	7.94***
2	Personal questions	.20	.07	1.37
3	Motivational values	.43	.23	5.35***

*** $p < .001$.

TABLE 4. Motivational Values (t) as Predictors of Wisdom Domains

Values	Affective	Cognitive	Reflective
Enjoyment	-2.57*	-4.12*	-3.57*
Restrictive Conformity	.83	-2.43*	.51
Pro-social	3.22*	2.46*	1.35
Security	2.16*	1.94	-.27
Maturity	1.11	-.34	1.48
Self-direction	-1.78	1.14	-.69
Achievement	-1.15	-.21	.45

* $p < .05$.

	Pre-test		Post-test			
	M	SD	M	SD	df	t
Wisdom Domains						
Affective	3.53	.44	3.75	0.38	114	-5.44***
Cognitive	3.61	.40	3.81	0.41	114	-5.11***
Reflective	3.52	.43	3.68	0.40	114	-3.88***
Total Wisdom	10.67	1.03	11.24	0.98	114	-5.81***
Motivational Values						
Enjoyment	5.96	.68	5.93	0.74	109	0.33
Restrictive Conformity	5.72	.74	5.86	0.80	109	-2.07*
Pro-social	6.04	.70	6.23	0.63	109	-3.21**
Security	5.98	.67	6.08	0.67	109	-1.75
Maturity	4.95	.60	5.03	0.72	110	-0.96
Self-direction	5.98	.64	6.03	0.63	109	-0.91
Achievement	5.84	.67	5.96	0.68	109	-1.92

* $p < .05$ level, two-tailed.
** $p < .01$ level, two-tailed.
*** $p < .001$ level, two-tailed.
Bonferroni's alpha = .008.

Discussion

These results offer insights into the relationships between affection, cognition, reflection, and values in today's youth. Pro-social values were significantly related to all three wisdom domains. While we would expect youth on a volunteer service trip to score high in the pro-social value domain, it would not necessarily follow that these values are significantly related to wisdom. Wisdom has been defined as a virtue of "balance" (Sternberg, 1998), and it is possible that wise youth would emphasize pro-social values in an effort to compensate for a highly individualistic focus on school and career achievement in western culture (Assmann, 1994). It is also conceivable that pro-social values are more appropriate than individualistic values or self-enjoyment in the context of this service-learning trip.

Since values may be ranked differently in different situations (Schwartz & Bilsky, 1990), it could follow that wiser youth are more adept at ranking their values appropriately within a variety of social contexts. While values are usually viewed as being less dynamic than the previous statement would imply, our post-modern culture has been characterized as relativistic, and the constant change and flux of our post-industrialist society with its rapidly evolving technologies may require a constant restructuring of values. While this may appear initially as a "good" thing, some researchers have suggested that the lack of a firm value-system may lead to indecision (Schwartz, 2000). It would be interesting to explore the structure and development of a dynamic values-system and to determine if wiser individuals maintain a more rigid or dynamic value-structure. Future research using different populations in different contexts could help clarify the relationship between wisdom and values.

The linking of wisdom to pro-social values is consistent with previous research. Kunzmann and Baltes (2003) found that those who demonstrated higher levels of "wisdom-related knowledge" also rated pro-social values as important guiding principles in their lives. However, the methods used by Kunzmann and Baltes tended to emphasize the cognitive aspect of wisdom. This study provides further insight by tying pro-social values to affective and reflective wisdom domains. The results of this study add further support to the connection of pro-social values and wisdom by illustrating a negative relationship between self-serving concerns (i.e. enjoyment values) and all three wisdom domains. Thus, it is not only wise to act out of pro-social motives, but it may be decidedly unwise to act only in the interests of oneself. It should be noted that wisdom is supposed to guide one's actions toward the "common good." A wise person, then, would conceivably be motivated to act in a way that best serves his/her interests *and* those of the community. A disregard for oneself could be considered just as unwise as a disregard for others as it could lead to a "helpless helper" syndrome (Ardelt, 2003).

Although age-related differences were limited in this study due to a range of only 5 years, age still emerged as a significant predictor of overall wisdom, specifically in regards to the reflective wisdom domain. It may be true, as Assmann (1994) noted, that the lack of wisdom in youth is attributable to their preference for activity above that of reflection. However, age and gender combined only accounted for 13% of the variance in overall wisdom while value domains accounted for 23%. A closer look at the power of each predictor for separate wisdom domains clarifies this finding. While age is a significant predictor of reflection, it does not play a significant role in cognition or affection in this sample. In fact, the only predictor that is consistent across all three wisdom domains is a negative association with enjoyment values.

Enjoyment is defined as comfort and pleasure, neither of which is inherently negative. However, it has been noted that learning and growth come as a result of an uncomfortable tension that motivates one to solve a specific problem (Dewey, 1916). One who holds comfort as a high priority would likely avoid the difficult and "thorny" life problems that have been identified as an important source of wisdom (Baltes et al., 2005). This finding may have implications for program design and evaluation. Traditionally, the success of a program could be measured solely by a growth in participant numbers. The problem may be that participation can be an indicator of fun and not personal growth. While no one would advocate removing the fun factor from program design, programmers may perform a disservice to their clients if they do not provide opportunities to stretch one's comfort zone in an effort to stimulate growth.

Other significant predictors of wisdom include security and pro-social values. While neither of these value domains is significant across all wisdom sub-domains, they each play a significant role in the development of one aspect of wisdom. Security values include items such as peace, inner harmony, freedom, responsibility, and self-control. Such values would appear to be conducive to a cognitive disposition that desires to know truth and understand phenomena on a deep level. Accordingly, values such as equality, helpfulness, forgiveness, and love convey the kind of pro-social attitude anticipated by the affective wisdom domain. Thus, while age, security, nor pro-social values are present across all wisdom domains, they all emerge as significant predictors of the overall wisdom construct. Future research may help to identify other predictors of wisdom domains and methods

by which they might be cultivated to stimulate growth in underdeveloped domains.

In order to further understand the structure of values and how they relate to wisdom, a factor analysis was performed on value domain scores for high and low wisdom groups. High and low wisdom groups were formed by summing the three wisdom domains and splitting the cases at the mean total wisdom score. Since wisdom was an actual value-item in the RVS, it seemed appropriate to determine what other value-items wisdom would cluster with for each group. For those in the lower group, wisdom was associated with items such as "logical," "a prosperous life," and "ambition." These items bring to mind a practical type of wisdom that may be based on knowledge and confidence. For those in the higher group, wisdom value was associated with items such as "a world of beauty (nature & the arts)," "world peace," "imaginative," "broad-minded," and "intellectual (intelligent and reflective)." Though this cluster includes intellect, it also incorporates creativity and open-mindedness.

These findings may have implications for the conceptualization of wisdom. Takahashi and Overton (2002) contended that the primary association of wisdom with knowledge is a Western phenomenon. Eastern conceptualizations include a broader range of domains including compassion and social unobtrusiveness. Sternberg (2003) suggested that wisdom is related to intelligence and creativity. In addition, Staudinger and Pasupathi (2003) found that intelligence and openness-to-experience were significant predictors of wisdom performance in adolescents. Thus, while knowledge is a key aspect to wisdom, it may be only one of several domains that must be balanced and integrated for true wisdom to emerge. It may also be true that knowledge is more essential to "practical" wisdom, whereas "transcendent" wisdom requires the integration of a broader set of sub-domains (Wink & Helson, 1997). These results suggest a connection between aesthetics and transcendent wisdom. This connection has been proposed by many poets and artists throughout history, being captured by John Keats in these final lines of his poem, *Ode on a Grecian Urn*:

"Beauty is truth, truth beauty,"
– that is all
Ye know on earth,
and all ye need to know.

Demographic and personal items also provided some illustrative results. First, and perhaps most intriguing, were the correlations between hours spent in extra-curricular activities and all three wisdom domains. This finding supports the notion that experience in a variety of social contexts is conducive to wisdom (Staudinger & Baltes, 1996). Participation in various communities may contribute to wisdom by encouraging the participant to encounter and sympathize with various life situations and perspectives. When interacting with others who have different values and beliefs, one must constantly re-evaluate his or her own belief-structure. This may result in a decrease of dogmatism and an increase in compassion and perspective-taking.

Time spent in extra-curricular activities was also significantly related to measures of school connectedness and self-reported measures of leadership. While correlations do not imply causation, these results point to a connection between wisdom, social involvement, connections to community, and self-perceptions of leadership. These findings support the concept of "social capital" (Coleman, 1990; Putnam, 2001), which claims that youth who are better supported by a variety of social groups show more progress (academic and civil) than youth without those support systems. Indeed, Ardelt (2004) reported "a supportive social environment in early adulthood had a positive impact on wisdom in old age over 40 years later, whereas the quality of the respondents' childhood and mature personality characteristics in adulthood were unrelated to wisdom in old age" (p. 277). Future research could help determine the roles each support system plays in youth development and how communities could help those systems to flourish.

Finally, these results verify that an intentionally designed service-learning experience can generate significant growth in certain wisdom domains. Pro-social values were significantly related to higher wisdom scores and increased over the course of this service-learning trip. Furthermore, all three wisdom domains showed significant increases in post-trip scores. An increase in cognition represents a growth in one's desire to understand life on a deep level and to know truth; an increase in affection represents a growth in sympathetic and compassionate love for others; and an increase in reflection indicates a tendency towards introspection and viewing phenomena from various perspectives. Perhaps the thorny life dilemmas that participants confront during the service-learning program have a profound effect on their disposition (Baltes et al., 2005).

Future research could help determine which aspects of such programs generate growth in each wisdom domain. This would enable practitioners to emphasize different programmatic elements in order to facilitate growth in each area of wisdom. It is unclear, for instance, whether these outcomes are due to the intense social setting inherent in this traveling service tour or the programmed service activities. For example, an increase in perspective taking could be a product of deep conversations on a long bus ride rather than from the planned service activities. In fact, these opportunities for undirected, "incidental" learning are a major element in experiential education (Dewey, 1916).

Researchers have suggested several methods through which wisdom may be cultivated. Staudinger and Baltes (1996) contended that wisdom performance increases as a result of guided imagery (i.e. meditation) and reflective exercises, as well as through candid discussion of issues with a valued other. Sternberg (2003) proposed the use of biographies, classic works, discussions, and reflection on values as methods of increasing a student's knowledge and concern for the human condition. This study adds to the literature by emphasizing the need for direct, even uncomfortable experiences in unfamiliar environments coupled with intentional time for group discussion and reflection for the generation of wisdom in adolescents. In addition, the need for an aesthetic "literacy" is highlighted. In a society that is driven by math and science scores, artistic extra-curricular programming could play a key role in determining whether our future leaders are humanely wise or only technically smart.

Though limited, this study provides important links between wisdom, values, and experiential education. Wisdom has been described as the "very top of a hierarchically organized system in which wisdom is a complex compound of elements blended with experience" (Birren & Fisher, 1990, p. 318). Both wisdom and experiential education emphasize experience and reflection as key elements in the struggle for "the good life." Additionally, this study gives insight into the roles that schools and communities play in the development of wisdom. As such, it may provide a first step in the direction toward intentional programming that stimulates life-long growth in meaning and fulfillment.

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