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Measuring Students' Perceptions of Personal and Social Responsibility and the Relationship to Intrinsic Motivation in Urban Physical Education

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The purpose of the current study was to test the validity and reliability of a two-factor model of the Personal and Social Responsibility Questionnaire (PSRQ) and examine the relationships between perceptions of personal and social responsibility and intrinsic motivation in physical education. Participants were 253 middle school students who completed the questionnaires. The results from a confirmatory factor analysis and internal consistency suggest the two-factor PSRQ is valid and reliable for assessing students' perceptions of personal and social responsibility in physical education. The correlational analysis suggests that participants with higher levels of personal and social responsibility were likely to enjoy physical education more. An important implication for teaching practice is that, to encourage all individuals to be intrinsically motivated to participate in physical education, physical education teachers need to empower students with choices and voices, focus them on effort and self-direction in physical education, and create a respectful and caring learning environment.

Keywords: personal and social responsibility, intrinsic motivation, self-direction

Many urban youth enrolled in public schools confront numerous challenges and are disproportionately at risk owing to social circumstances such as poverty, violence, drug misuse, depression, crime, and alcohol (USDHHS, 2000, 2002). Being exposed to this "socially toxic environment" (Garbarino, 1997) on a daily basis, urban youth are more likely to drop out of school, develop risky behaviors, and to engage in criminal activity. The perceived need to promote positive youth development in this population has grown tremendously over the past 30 years (e.g., Sandford, Armour, & Warmington, 2006). Many positive youth development

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programs have proven effective in decreasing risky behaviors and promoting positive outcomes (Catalano et al., 1998).

A growing number of these programs are based in sport and physical activity (Collingwood, 1996; Danish, Forneris, & Wallace, 2005; Petitpas, Cornelius, Van Raalte, & Jones, 2005; Sandford et al., 2006). Hellison's (2003) teaching personal and social responsibility model (TPSR) is a well-established approach that uses physical activity as a vehicle to promote positive youth development among urban youth (Hellison et al., 2000). The importance of personal and social development has been addressed in academic literature coming from fields such as education, physical education, psychology, and youth development (for a review, see Hellison & Martinek, 2006). There is a growing body of research supporting the practical effectiveness and immediate positive outcomes associated with TPSR programs (Cutforth & Puckett, 1999; DeBusk & Hellison, 1989; Hellison & Wright, 2003; Martinek, Schilling, & Johnson, 2001; Schilling, 2001; Wright, White, & Gaebler-Spira, 2004). Because of its widespread application and practical appeal, there is need for continued development and study of this particular model.

Although several qualitative studies and small-scale program evaluations support the effectiveness of the TPSR model, there are numerous calls in the literature for more empirical evidence (Hellison & Walsh, 2002). As Hellison and Martinek (2006) explain, much of the early inquiry related to TPSR was philosophically and practically oriented. Although a body of empirical evidence is growing in the TPSR literature, quantitative evaluation studies remain underrepresented. However, for programs designed to promote youth development through physical activity, there is a growing demand to demonstrate quantitative outcomes (Petitpas et al., 2005; Sandford et al., 2006). For this reason, the development of a valid and reliable measure of personal and social responsibility that complements other forms of inquiry would constitute a valuable contribution to this line of research.

Studies on TPSR to date have been conducted in varied settings, such as summer sport camps, extended day programs, and alternative schools. However, the context chosen for testing the PSRQ was school-based physical education because countless physical education teachers across the nation apply the TPSR to varying degrees (Hellison, 2003). This may be due to the perceived need, especially in urban physical education, to address issues such as respect, caring, and relevance (Ennis, 1999; Ennis & Chen, 1995; Ennis et al., 1999). Although underrepresented in the current literature, school-based physical education may be the setting where the most children and youth are exposed to the TPSR model. A measure developed for that setting, therefore, is especially relevant.

The TPSR is typically described in terms of five core responsibilities: respecting the rights and feelings of others, effort, self-direction, caring and helping, and transfer "outside the gym." Although these are referred to as *responsibility levels,* Hellison (2003) is careful to point out that he does not mean to imply a strict progression. The first two levels, dealing with respect and effort, are more basic responsibilities required to establish a positive learning environment. The next two responsibilities, self-direction and caring/helping, are more advanced and generally emerge later. The final level, transfer, is the most advanced in that it requires participants to apply the first four responsibilities in other settings. Although transfer represents the ultimate aim of TPSR, the current study addressed only the first four levels to assess the immediate impact of the model in the program setting. The

TPSR literature indicates improvement in these areas is the most immediate and typical program outcome (Hellison & Walsh, 2002). Empirical research has also demonstrated an interconnection between underserved youth's responsible behaviors and their enjoyment in TPSR-based youth development programs (Hellison & Martinek, 2006).

Watson et al. (2003) developed a self-reported questionnaire to assess youth's perceptions of personal and social responsibility. This questionnaire consists of 15 items, with a 4-point Likert scale. The exploratory factor analysis, with a sample size of 135 underserved participants in a National Youth Sports Program summer camp, indicated a discrepancy between the Watson et al. (2003) measurement and the concepts in Hellison's model. For instance, the constructs of self-direction and caring for others emerged as one factor. The rationale for combining those two constructs into one factor seems questionable because the construct of self-direction involves personal responsibility, whereas caring for others is a construct reflecting social responsibility. Additionally, the basic constructs of respect and effort emerging as separate factors contradict the fact that the two advanced responsibilities cluster together as one factor. It seems more logical and consistent with the conceptual framework of the TPSR that the personal responsibilities and the social responsibilities would constitute distinct factors (Hellison & Martinek, 2006). In describing the development of his model, Hellison (2003, p. 6) states, "I selected two values related to personal well-being, effort and self-direction, and two related to social well-being, respect for others' rights and feelings and caring about others. I wanted to give attention to being both personally and socially responsible."

Watson et al. (2003) had envisioned an instrument with four factors, one associated with each of the core responsibility levels; however, it appears that there is too much overlap between the various constructs for this to be plausible. Consider, for example, the degree to which respect for others and caring for others are interrelated. It is unlikely that a questionnaire designed primarily for use with underserved adolescents will effectively make such subtle distinctions. However, treating respect and caring as residing on the continuum of social responsibility is more feasible. This rationale was used to guide the development of the Personal and Social Responsibility Questionnaire (PSRQ). Each of the four core responsibility levels was represented by several items, with the assumption that those associated with personal responsibility and those associated with social responsibility would combine to yield two corresponding factors, which would be positively related to each other.

Guan, McBride, and Xiang (2006) conducted a confirmatory factor analysis on a social goal scale in a high school physical education setting. The scale is framed around achievement goal theory and consists of two subscales: social relationship goal and social responsibility goal. Social responsibility goal is defined as an individual's desire to conform to social rules, norms, and role expectation (Wentzel, 1991). The results from the Guan et al. (2006) study support the rationale for treating social and personal responsibility as separate constructs, reinforce the importance of the affective dimension of physical education and its connection to motivation, and highlight the need for valid and reliable instruments to tap affective constructs in the physical education setting. However, the social goal scale focuses only on social responsibility and does not address personal responsibility. The items of social responsibility goal were structured to tap individuals' desire

for social acceptance and need to adhere to role expectations. The PSRQ items were constructed to be aligned with TPSR model, and therefore assume a greater degree of autonomy and individual choice.

Many students do not enjoy physical education, and there is no sign that this trend is slowing down (Carlson, 1995; Cothran & Ennis, 1999). Intrinsic motivation is a strong predictor of an individual's physical activity engagement (Biddle & Mutrie, 2001). Individuals who are intrinsically motivated tend to be more physically active and show higher levels of exercise adherence (Biddle & Mutrie, 2001; Edmunds, Ntoumanis, & Duda, 2006). In physical education, students' intrinsic motivation is positively associated with their levels of learning engagement and achievement (e.g., Graham, 1995; Lee, 1997; Subramaniam & Silverman, 2000). Those who are motivated and actively engaged in physical education tend to be more intrinsically motivated to exercise and physically active outside of school (Carlson, 1995; Ennis, 1996). Therefore, physical educators must find creative ways to increase students' intrinsic motivation in physical education, thus impacting their subsequent exercise behavior.

The purpose of the current study, therefore, was to validate a two-factor measure of students' perceptions of personal and social responsibility and examine how they relate to intrinsic motivation in physical education. It was hypothesized that participants who exhibited high levels of personal and social responsibility would report greater intrinsic motivation in physical education.

Methodology

Participants

The present study was part of a larger one that examined participants' motivation in physical education. Participants were 253 middle school students (108 males and 145 females; 203 African Americans, 7 European Americans, 41 others, and 2 not specified) in the southern United States. Informed consent was obtained from all participants and their parents. The participants' ages ranged from 9 to 15 years (M = 12.1, SD = 0.98). Parental and student consent was obtained in accordance with the university's institutional review board.

Instrumentations

Personal and Social Responsibility Questionnaire (PSRQ). The Contextual Self-Responsibility Questionnaire developed in the Watson et al. (2003) study was modified to assess participants' perceptions of personal and social responsibility in physical education. Eight original items were reworded and six new items were created to increase clarity and establish concrete linkages to the first four TPSR levels. The construct and content validity of the PSRQ was validated by a panel of experts in the teaching personal and social responsibility model including the developer of the TPSR. All panel members belonged to a national TPSR advisory board that had assembled for a meeting in January 2007. The second author is a member of this advisory board and was in attendance. Excluding the second author, the panel asked to review the PSRQ included five professors from four universities

with expertise in the fields of education, physical education, and sport psychology. Also included in the panel were seven TPSR practitioners, trained by the developer, with experience in implementing the model in public and alternative school physical education as well as community-based programs. In an open forum for discussion, the second author provided all panel members with a handout including the 14 PSRQ items and a key indicating which TPSR responsibility level and which factor (personal or social responsibility) each item represented. The second author explained the instrument development process and psychometric properties before inviting feedback from the panel relative to construct and content validity. No panel members raised concerns about the content validity of the items or the construct validity of the two-factor structure. After each individual had time to review the materials, a discussion ensued regarding the relevance and appropriate use of the instrument. Specific recommendations from the panel are discussed later in this article.

The PSRQ consists of two factors (personal responsibility and social responsibility) with seven items for each factor (shown later in Table 2). The questionnaire was prefaced as follows: "It is natural to behave both well and poorly. We are interested in how you normally behave in your physical education class. Please answer the following statements honestly by checking the box that best represents your behavior." The construct of social responsibility represents two TPSR levels: respect for others (three items) and caring for others (four items). Sample items include "I respect others" and "I am helpful to others." The construct of personal responsibility comprises the other two TPSR levels: effort (four items) and self-direction (three items). Sample items include "I try hard" and "I set goals for myself." Only one item in the PSRQ was negatively worded. The response scale ranges from "*strongly disagree*" (1) to "*strongly agree*" (6). The 6-point Likert scale was used because it eliminates any neutral responses and is one of the commonly used scales in psychological fields.

Intrinsic Motivation. A four-item intrinsic regulation subscale of the Behavioral Regulation in Exercise Questionnaire (BREQ-2; Markland & Tobin, 2004) was used to assess participants' intrinsic motivation in physical education. The internal consistency alpha for the intrinsic regulation subscale was 0.86. Example items include "I enjoy PE classes" and "PE classes are fun." The response scale ranges from "*not at all true*" (1) to "*very much true*" (6).

Procedures

The entire data collection period spanned 3 days with a group of 80–90 students participating each day. Upon arrival at their school cafeteria, participants were seated at 13 different tables (4–7 participants per table) and instructed by a trained graduate assistant to complete the demographics, PSRQ, and intrinsic regulation subscale. Directions for completing questionnaires and all the questionnaire items were read out to participants using a microphone. Participants were also encouraged to ask questions. The primary investigator and a trained graduate student were available to address any questions. It took participants approximately 15 min to complete the two questionnaires.

Data Analysis

The negatively worded item in the PSRQ was reversed before the data analysis. A maximum likelihood confirmatory factor analysis using the SAS PROC CALIS procedure (a SAS code program) was conducted to test the validity of the two-factor model for the PSRQ. Multiple fit indices including the comparative fit index (CFI), the Bentler–Bonett non-normed fit index (NNFI), and the root mean square error of approximation (RMSEA; Steiger, 1990) were performed to assess the adequacy of the measurement models (Hatcher, 1994). Additionally, significance tests of factor loadings were examined.

Both NNFI and CFI range from 0 to 1 and values greater than 0.95 (Hu & Bentler, 1999) indicate a close fit between the model and the observed data. For RMSEA, values of 0.05 or less indicate a close fit; values between 0.05 and 0.08 are indicative of a marginal fit; and values of 0.10 or above indicate a poor fit of the model to the observed data (Browne & Cudeck, 1993). For the present analysis, a factor loading is a construct equivalent to that of a path coefficient from a latent factor to an indicator variable. A significant factor loading, with 0.4 or above standardized coefficient, means that the indicator variable provides a good measure of the underlying factor (Hatcher, 1994). Internal consistency reliability for all subscales from the PSRQ and intrinsic motivation was assessed by using Cronbach's (1951) coefficient alpha. Pearson correlations were used to examine the relationships between participants' perceptions of personal and social responsibility and their intrinsic motivation in physical education.

Results

Two-Factor PSRQ Measurement Model

The variance/covariance matrix for all the items is provided in Table 1. The confirmatory factor analysis indicated that the hypothesized factor structure provided an acceptable fit to the observed data, $\chi^2(76) = 147.93$, $p < .0001$; NNFI = .92; CFI = .93; RMSEA = .06. The obtained t values ranged from 6.23 to 13.79, indicating that all the factor loadings were significant at $p < .001$ (greater than 3.29) (Hatcher, 1994). The standardized loadings ranged in size from 0.42 to 0.80 and only four were under 0.60, as reflected in Table 2. The result indicated a good fit between the proposed model and the observed data. All subscales from the PSRQ and intrinsic motivation scales demonstrated acceptable levels of internal consistency ranging from 0.79 to 0.81. The aggregate scores were calculated by summing all responses for each subscale and dividing by the relevant number of items per subscale.

The correlational analysis, as reflected in Table 3, indicated that perceptions of personal responsibility were positively related to perceptions of social responsibility, $r(230) = 0.64$, $p < .0001$, and intrinsic motivation, $r(244) = 0.39$, $p < .0001$. Perceptions of social responsibility were also positively associated with intrinsic motivation, $r(236) = 0.33$, $p < .0001$. Participants who worked hard and had clear goals in physical education were likely to respect their peers and teachers and care for them. Those who exhibited higher levels of personal and social responsibilities were likely to enjoy physical education more.

Table 1 Variance/Covariance for All the Items

Items (levels of responsibility)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. I respect others (Respect)	1.5	.52	.49	.58	.69	.58	.60	.59	.50	.60	.53	.48	.44	.42
2. I respect my teacher(s) (Respect)		1.43	.54	.55	.67	.75	.55	.50	.41	.51	.49	.37	.34	.45
3. I help others (Caring and Helping)			1.58	.79	.55	.58	.71	.35	.43	.70	.45	.40	.37	.42
4. I encourage others (Caring and Helping)				1.57	.61	.40	.70	.54	.53	.80	.65	.52	.61	.43
5. I am kind to others (Caring and Helping)					1.59	.76	.79	.42	.41	.46	.34	.39	.43	.50
6. I control my temper (Respect)						2.72	.54	.64	.29	.46	.24	.10	.34	.27
7. I am helpful to others (Caring and Helping)							1.47	.33	.44	.47	.44	.33	.39	.39
8. I participate in all of the activities (Effort)								1.67	.45	.56	.63	.37	.51	.41
9. I try hard (Effort)									.79	.63	.47	.47	.48	.57
10. I set goals for myself (self-direction)										1.57	.58	.49	.56	.44
11. I try hard even if I do not like the activity (Effort)											1.74	.61	.44	.33
12. I want to improve (self-direction)												1.01	.39	.43
13. I give a good effort (Effort)													.91	.59
14. I do not make any goals (self-direction)														2.5

Table 2 Factor Loadings and *t* Values for Each Variable

Items (levels of responsibility)	Personal responsibility (factor loadings)	Social responsibility (factor loadings)	*t* Values
1. I respect others (Respect)	—	.62	9.75
2. I respect my teacher(s) (Respect)	—	.60	9.40
3. I help others (Caring and Helping)	—	.62	9.77
4. I encourage others (Caring and Helping)	—	.69	11.15
5. I am kind to others (Caring and Helping)	—	.65	10.34
6. I control my temper (Respect)	—	.42	6.23
7. I am helpful to others (Caring and Helping)	—	.67	10.61
8. I participate in all of the activities (Effort)	.53	—	8.07
9. I try hard (Effort)	.80	—	13.79
10. I set goals for myself (self-direction)	.68	—	10.96
11. I try hard even if I do not like the activity (Effort)	.55	—	8.37
12. I want to improve (self-direction)	.63	—	9.92
13. I give a good effort (Effort)	.70	—	11.52
14. I do not make any goals (self-direction)	.44	—	6.59

Table 3 Means, Standard Deviations, Alpha Coefficients, and Correlation Coefficients for Subscales

	SR	PR	IM
Social responsibility (SR)	—	.64*	.33*
Personal responsibility (PR)		—	.39*
Intrinsic motivation (IM)			—
Mean	4.71	4.93	4.72
Standard deviation	.87	.80	1.08
Coefficient alpha	.79	.80	.81

*$p < .0001$.

Discussion

The purpose of the current study was to test the validity of a two-factor model of a personal and social responsibility questionnaire (PSRQ) and examine the relationships between perceptions of personal and social responsibility and intrinsic motivation in physical education. By examining the Watson et al. (2003) questionnaire and Hellison's model, we proposed a two-factor model for the PSRQ, which is conceptually consistent with the TPSR model. The results of the current study suggest the two-factor PSRQ is valid and reliable for assessing students' perceptions of personal and social responsibility in physical education. A valid

and reliable quantitative measure of students' perceptions of personal and social responsibility is a critical contribution to the TPSR literature and the broader fields of education, physical education, youth development, and psychology. Therefore, the PSRQ should be validated in different physical activity settings and in different populations in the future.

It was hypothesized that high levels of personal and social responsibility would be associated with greater intrinsic motivation in physical education. The results in the current study supported the hypothesis and were consistent with the research literature (for reviews, see Hellison & Martinek, 2006, and Hellison & Walsh, 2002), indicating a positive association between the constructs of personal responsibility, social responsibility, and intrinsic motivation. The present study represented an initial step in examining the relationship between the constructs of TPSR and motivation in physical education setting using a quantitative methodology. Even though the current study was correlational in nature, it provided another perspective of how TPSR can be related to motivation.

The research literature has suggested that, to encourage all individuals to be intrinsically motivated to participate in physical education, physical education teachers focus them on effort and skill mastery in physical education (see Li & Lee, 2004 for a review) and create a respectful and caring learning environment (e.g., Ennis et al., 1999). These issues are also seen as keys to implementing effective urban physical education programs (Ennis, 1999; Ennis & Chen, 1995; Ennis et al., 1999). An important implication of this research for teaching practice is that those outcomes can be achieved through empowerment strategies that promote independence and autonomy, provide opportunities for making choices, share leadership roles, and give students a voice in the program. To underscore the relevance of the TPSR model in school-based physical education, it should be noted that the current national standards in physical education (NASPE, 2004) directly address personal and social responsibility. It is suggested that physical education teachers look to the TPSR model as an effective means of promoting this standard, which is often difficult for practitioners to implement and assess (Parker & Hellison, 2001). For those who do, the PSRQ may provide a useful tool for program evaluation and improvement.

The panel of TPSR experts mentioned earlier made several recommendations related to the appropriate use of the PSRQ. For example, it should be recognized that this validated instrument addresses only selected aspects of the TPSR. The transfer of responsibility outside the physical activity setting is not addressed by this instrument, and the first four TPSR levels are represented by only a few items each. A robust implementation of the TPSR might incorporate responsible behaviors such as teamwork or peer coaching not currently addressed. For future use of the PSRQ in research and program evaluations, those points should be taken into consideration.

To strengthen the psychometric properties of the PSRQ, we decided to include items that represent a straightforward and fundamental implementation of the model. In this way, the instrument can eventually be applied in a variety of settings and be not limited by the physical activity content itself or the particular instructional strategies being employed. For example, the concept of teamwork might be relevant in a TPSR program built upon basketball, but not martial arts. Effort, on the other hand, is a relevant concept in virtually any activity. To examine the issue of transfer,

which is a key goal of the TPSR, researchers and practitioners would require other instrumentations and methodologies.

It should also be noted that the PSRQ does not address TPSR implementation. Data collected using this instrument will assess students' self-reported responsibility in a program regardless of the presence or degree of fidelity in TPSR implementation. One advantage here is that the instrument can be used to collect baseline data or to evaluate the level of personal and social responsibility in any program regardless of instructional style. However, caution must be exercised in attempting to use this instrument to assess impact or change in responsibility. Without addressing the implementation of a program or intervention, conclusions about its impact are suspect. We also caution researchers and practitioners against evaluating the effectiveness of programs based solely on results from this instrument. We propose, rather, that the PSRQ would be most effective when used in combination with other instruments and methodologies. For instance, process-oriented data such as observations, journals and logs can be effective in assessing TPSR implementation (Wright & Burton, 2008). Interviews, other self-report measures, and academic records are examples of data that might speak to the issue of transfer in a TPSR program evaluation (Wright, Li, & Pickering, 2007). Viewed in this way, the PSRQ complements rather than replaces other methods and forms of inquiry.

In conclusion, we propose that the PSRQ is a valid and reliable tool for assessing students' personal and social responsibility in the physical education setting. Given the importance and practical relevance of the personal and social responsibility constructs, this PSRQ instrument may provide useful information to guide the development and improvement of other physical activity programs designed to promote positive youth development. It is a valuable contribution to the TPSR literature, which heretofore has been lacking in quantitative instrumentation to examine some of its core assumptions.

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