

Reducing Youth Risk Behaviors Through Interactive Theater Intervention

Ryan J. Watson

University of British Columbia

Daniel A. McDonald

Ruth Carter

University of Arizona

Joseph M. Russo

Arizona Department of Health Services

The reduction of risk behaviors in secondary schools is a key concern for parents, teachers, and school administrators. School is one of the primary contexts of socialization for young people; thus, the investment in school-based programs to reduce risk behaviors is essential. In this study, we report on youth who participated in an intervention designed to improve decision-making skills based on positive youth development approaches. We examine changes in decision-making skills before and after involvement in the Teen Interactive Theater Education (TITE) program and retrospective self-assessment of change in knowledge, abilities, and beliefs as a result of participating in TITE (n = 127). Youth that reported increases in knowledge, abilities, and beliefs due to the intervention (n = 89) were more likely to think about the consequences of their decisions and list options before making a decision compared to their counterparts that reported less overall learning (n = 38). Implications for intervention research and stakeholders are discussed.

Keywords: adolescence, decision-making, intervention, theater

It is well established that adolescence is a critical period for the development of decision-making skills (Albert & Steinberg, 2011). Physiological changes affect an individual's ability to perform complex cognitive tasks, including emotional regulation, delay of gratification, hypothetical reasoning, and decision-making (Churchwell & Yurgelun-Todd, 2013; Steinberg, 2005). These changes are linked to physical development, and studies have shown that environmental factors can play a mediating role in adolescent decision-making behavior (Pfeifer et al., 2011; Tuvblad et al., 2013). One such environmental factor is the availability of youth development programming.

Direct correspondence to Ryan J. Watson at ryan.watson@ubc.ca

Several intervention strategies have been developed to aid youth in the development and exercise of better decision-making skills. A wide variety of programs that use different approaches have been applied broadly to address general skills and knowledge, and other programs target specific risk behaviors such as sexual activity and substance abuse (Robin et al., 2004). Not many scholars have been able to measure the effectiveness of these intervention strategies. The few that have evaluated the efficacy of the interventions found that focusing on practical examples of risk situations, reinforcing information in different ways, and catering to a variety of learning styles have been associated with success (Reyna & Farley, 2006). In this paper, our goal is to examine the effectiveness of one intervention (Teen Interactive Theater Education [TITE] program) that is youth-led and uses performing arts to educate about both risks and positive factors associated with adolescent development. We ask the following questions:

1. What are the implications of the TITE intervention on decision-making skills in general for participating youth?
2. Is there an association between self-reports of decision-making skills and self-assessment about participant's knowledge about the consequences of risk behaviors, their abilities to avoid risk behaviors, and the importance of their beliefs regarding risk behaviors?

Of the few evaluated interventions, only a small number have implemented drama and performing arts to deliver decision-making information to youth participants. TITE relies on dramatized performances, role-plays, and peer education (Kisiel et al., 2006; Sriranganathan et al., 2012) to better equip youth to make healthy decisions. In TITE, youth participants are given the opportunity to present information to their peers through educational performances. The TITE curriculum incorporates various experiential activities that engage youth in the development and delivery of original skits associated with risky behaviors. Initially, participants engage in activities to build trust and cooperation, followed by lessons on relationships, critical thinking, values, and life skills that culminate in a "performance" in which teens teach other teens about risk prevention. The program's objectives are to enhance youths' decision-making skills by increasing their knowledge of the consequences of risky behaviors, improving risk-avoidance skills, and changing beliefs about the importance of avoiding risky behaviors.

While programs have utilized a theatrical-based approach that is in part informed by psychology, there is a lack of formal program evaluation of these strategies (Glik, Nowak, Valente, Sapsis, & Martin, 2002). The combination of factors in TITE makes it a unique intervention approach from others (e.g., use of drama and performing arts, trust activities) in the literature and underscores the need to evaluate the effectiveness of such programs in reaching positive youth development outcomes (decision-making skills in this case). Through an evaluability assessment of 4-H Healthy Living programs, TITE was found to have preliminary evidence that it was ready

for a comprehensive outcome evaluation and/or replication at a national level (Downey, Peterson, Le Menestrel, Leatherman, & Lang, 2014).

In this study, we inquire whether TITE was successful in improving youths' decision-making skills. We use pre- and post-surveys to evaluate decision-making outcomes. Then, we compare decision-making outcomes of youth reporting higher levels of knowledge, abilities, and beliefs as a result of participating in TITE to the decision-making outcomes of youth who reported lower levels of those same constructs.

Method

The TITE program has been delivered at seven alternative high schools in a large urban area in the Southwestern United States. Students take an elective class involving 30 hours per semester, engaging in team-building activities and experiential learning opportunities that cover topics such as life skills, critical thinking, relationships, and values. As stipulated by the Institutional Review Board, all survey respondents assented to their participation and participants less than 18 years of age were required to obtain parent/guardian consent.

The TITE evaluation used a pre-/post-survey administered to all participants during the first session and then again during the last session. There were 58 items on the pre-survey instrument and 69 items on the post-survey instrument. In addition to basic demographic information (e.g., age, gender, race), youth reported on areas of self-efficacy, including decision-making abilities, control over goals, and interpersonal skills. The additional eleven items on the post-survey asked respondents to reflect on the status of their knowledge, abilities, and beliefs as a result of participating in TITE. For instance, participants were asked, "After participating in the TITE program..."

- My knowledge now about the risk of pregnancy is: *Less than what it was before TITE, About the same as what it was before TITE, or Greater than what it was before TITE.*
- My ability to resist negative peer pressure is: *Less than what it was before TITE, About the same as what it was before TITE, or Greater than what it was before TITE.*
- My belief in the importance of abstaining from sex until marriage is: *Less than what it was before TITE, About the same as what it was before TITE, or Greater than what it was before TITE.*

While we might anticipate self-reports on the level of knowledge, abilities, and beliefs to be greater as a result of participating in TITE, it is possible for youth to report decreases in these constructs. Although at first thought this may seem counterintuitive (how does one have less knowledge after participating in a program?), there are some possible explanations as to why someone might make that assessment. For instance, it could be that participants indeed felt that

they knew more before participating in TITE, but that their knowledge base had been disrupted, and they are confused as a result of their participation. Or it may be that long-held belief systems are being questioned and so some participants are re-examining those beliefs, but are temporarily at a loss until they can reconcile the new information with their long-held beliefs. Finally, it could be that some respondents were just feeling negatively about their experience in TITE and are reflecting that on their post-survey. We are unable to tease out precisely why participants responded in this manner, but it is important to know, from an evaluation standpoint, that some participants do not improve after participating in an intervention.

A total of 448 participants completed a pre-survey, and 368 completed both the pre- and post-surveys (82%) since TITE began in 2004 [For a description of the TITE curriculum and program, see McDonald, Williams, & Carter (2011)]. All participants included in the study completed both pre- and post-evaluations. The present study uses a subset of total respondents who participated in 2011, 2012, and 2013 ($n = 127$), as those years provided the most complete data set (As a result of focus group feedback pertaining to the instruments, some modifications had been made to the evaluation instrument prior to 2011). The scales used for these analyses include “decision-making” ($\alpha_{pre} = .65$; $\alpha_{post} = .72$) and what we have termed, for ease of reference, “overall learning” ($\alpha_{post} = .85$). Overall learning includes the participant’s assessment of knowledge, abilities, and beliefs as a result of participating in TITE. Of the respondents in this data set, slightly more than half were female (54%) and the vast majority (75%) were Hispanic. Ages ranged from 9 to 21 years, and the mean age was 15.8 years ($SD = 1.31$).

Plan of Analysis

Paired t -tests and logistic regression were employed using SPSS 22 (IBM Corp, 2013). We used paired t -tests to determine whether responses about decision-making significantly changed from before the intervention to after. Next, logistic regression was used to compare decision-making outcomes of youth. For the logistic regression, we used a dichotomized “overall learning” variable to represent two groups of participants: youth that reported more overall learning (knowledge, understanding, abilities; $n = 89$) as a result of participating in TITE, and youth that reported less overall learning ($n = 38$) as a result of participating in TITE. For purposes of the logistic regression analysis, we dichotomized the variable that asked participants the status of their knowledge, abilities, and beliefs as a result of participating in TITE (1 = *less than before*; 2 = *same as before*; 3 = *more than before*). We used a median split criteria, where we took the median value (1.66) of the mean of the 11 original variables and created a dichotomized “overall learning” variable. We used the response of *Learned Less than what it was before TITE* as the referent group in logistic regression analyses. We controlled for age as a potential confound to reports of development associated with the TITE program.

Results

Youth reported changes in decision-making skills in the desired direction after they participated in the intervention as compared to before participating. Of these changes, four were statistically significant: “It is important to: stick to my decisions, make good decisions, and be responsible for my decisions” and “I think about what might happen because of my decision” (see Table 1).

Table 1. Pre/Post Differences on TITE Evaluation Survey

Variable	Pre-Survey		Post Survey		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>It is important to...</i>					
stick to my decisions	2.51	0.05	2.66	0.05	-2.42**
make good decisions	2.47	0.05	2.61	0.05	-2.61**
be responsible for my decisions	2.69	0.05	2.78	0.05	-1.69*
<i>Some things about me...</i>					
I list my options before making a decision	1.96	0.07	2.02	0.06	-0.83
I think about what might happen because of my decision	2.28	0.06	2.44	0.05	-2.53*
After acting on my decision, I think about the results	2.39	0.06	2.32	0.07	0.90

Note: *** Denotes significance at $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Variables measured on a scale of 1 (*never*) to 3 (*all of the time*).

We next inquired as to what were the correlates of the efficacy of the TITE program. For example, do individuals reporting higher overall learning (concerning knowledge, abilities, and beliefs) as a result of the program also report improved decision-making skills? Compared to individuals who reported less overall learning after they participated in the intervention, those youth who reported more overall learning as a result of the intervention were also more likely to report better outcomes concerning decision-making (see Table 2). For instance, the odds that youth who reported more overall learning from the intervention would list their options before making a decision were 3.4 times greater than their counterparts who reported less overall learning. The odds that youth who reported more overall learning would think about what might happen to them because of their decision were 4.4 times higher than their counterparts who reported less overall learning. The odds that youth who reported more overall learning from TITE would also think about the results after acting on their decisions were 2.5 times higher compared to their counterparts who reported less overall learning. Last, the odds that youth who reported more overall learning from TITE would also report that it is important to stick to their decisions were 1.8 times greater than their counterparts who reported less overall learning from the intervention.

Table 2. Intervention Outcomes Related to Decision-Making for Youth

Variable	Overall Learning
	Learned More Than Before AOR (95% CI)
<i>It is important to...</i>	
stick to my decisions	1.80 (1.80-4.01)*
make good decisions	1.58 (0.69-3.62)
be responsible for my decisions	0.55 (0.22-1.37)
<i>Some things about me...</i>	
I list my options before making a decision	3.38 (1.03-11.09)*
I think about what might happen because of my decision	4.51 (2.04-9.99)***
After acting on my decision, I think about the results	2.47 (1.18-5.16)**

Note: *** Denotes the odds significant from reference group at $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

AOR = Adjusted odds ratio (for age).

Referent group for logistic regression: *Learned less than before the TITE intervention*

Discussion

We were interested in whether decision-making behaviors could be changed through an innovative approach that utilized a positive youth development framework and was enacted through drama and theater. We first found that the TITE intervention was successful in changing decision-making skills for youth participants from pre- to post-survey. Next, we found that participation in the TITE intervention was significantly associated with changes in the way youth thought about decision-making, in terms of both what is important about decision-making to youth and the processes of their decision-making. We found no major differences by race/ethnicity; however, the sample was primarily of Hispanic origin. We expect that these results would generalize to most youth in schools because the curriculum was developed to apply to a broad audience of youth. While it is interesting and important to find that decision-making skills were significantly increased for those program participants reporting increases in knowledge, abilities, and beliefs (what we have called overall learning), our next step is to examine more closely the components of the program that produce higher or lower levels of those constructs.

Our findings have important implications for stakeholders that design interventions and choose which interventions to employ at school. The results suggest that when practitioners are implementing youth development programming in the community, performance and peer-to-peer instruction may constitute effective strategies for knowledge transfer. This is consistent with findings by Kirby and Coyle (1997) that effective school-based programs to reduce risky sexual behaviors are those that provide for experiential activities and peer-to-peer educators. Thus, stakeholders who take part in the design of interventions should consider nontraditional

approaches to reaching out to youth, such as the use of educational performance. In addition, we posit that the results suggest that teachers and administrators can embrace and advocate for interventions that allow students to teach one another from positive youth development frameworks, as opposed to interventions that focus on risk and fear of negative outcomes. Life skills may be best taught with a trained group leader who employs a positive youth development framework and facilitates flexibility and creativity in the peer-to-peer interaction process.

References

- Albert, D., & Steinberg, L. (2011). Judgment and decision making in adolescence. *Journal of Research on Adolescence*, 21(1), 211–224. doi:10.1111/j.1532-7795.2010.00724.x
- Churchwell, J. C., & Yurgelun-Todd, D. A. (2013). Age-related changes in insula cortical thickness and impulsivity: Significance for emotional development and decision-making. *Developmental Cognitive Neuroscience*, 6, 80–86. doi:10.1016/j.dcn.2013.07.001
- Downey, L. H., Peterson, D. J., Le Menestrel, S., Leatherman, J., & Lang, J. (2014). 4-H Healthy Living programs with impact: A national environmental scan. *New Directions for Youth Development*, 2014(143), 13–24. doi:10.1002/yd.20101
- Glik, D., Nowak, G., Valente, T., Sapsis, K., & Martin, C. (2002). Youth performing arts entertainment-education for HIV/AIDS prevention and health promotion: Practice and research. *Journal of Health Communication: International Perspectives*, 7(1), 39–57. doi:10.1080/10810730252801183
- IBM Corp. (2013). *IBM SPSS Statistics for Windows*, Version 22.0. Armonk, NY: IBM Corp.
- Kirby, D., & Coyle, K. (1997). School-based programs to reduce sexual risk-taking behaviors. *Children and Youth Services Review*, 19(5–6), 415–436. doi:10.1016/S0190-7409(97)00025-X
- Kisiel, C., Blaustein, M., Spinazzola, J., Schmidt, C. S., Zucker, M., & van der Kolk, B. (2006). Evaluation of a theater-based youth violence prevention program for elementary school children. *Journal of School Violence*, 5(2), 19–36. doi:10.1300/J202v05n02_03
- McDonald, D. A., Williams, L. R., & Carter, R. (2011). A reduction of risk behaviors through Teen Interactive Theater Education (TITE). *Journal of Extension*, 49(1), Article 1IAW5. Retrieved from <http://www.joe.org/joe/2011february/iw5.php>
- Pfeifer, J. H., Masten, C. L., Moore, W. E., III, Oswald, T. M., Mazziotta, J. C., Iacoboni, M., & Dapretto, M. (2011). Entering adolescence: Resistance to peer influence, risky behavior, and neural changes in emotion reactivity. *Neuron*, 69(5), 1029–1036. doi:10.1016/j.neuron.2011.02.019
- Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making: Implications for theory, practice, and public policy. *Psychological Science in the Public Interest*, 7(1), 1–44. doi:10.1111/j.1529-1006.2006.00026.x

- Robin, L., Dittus, P., Whitaker, D., Crosby, R., Ethier, K., Mezoff, J., ... Pappas-Deluca, K. (2004). Behavioral interventions to reduce incidence of HIV, STD, and pregnancy among adolescents: A decade in review. *Journal of Adolescent Health, 34*(1), 3–26. doi:10.1016/S1054-139X(03)00244-1
- Sriranganathan, G., Jaworsky, D., Larkin, J., Flicker, S., Campbell, L., Flynn, S., ... Erlich, L. (2012). Peer sexual health education: Interventions for effective programme evaluation. *Health Education Journal, 71*(1), 62–71. doi:10.1177/0017896910386266
- Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Science, 9*(2), 69–74. doi:10.1016/j.tics.2004.12.005
- Tuvblad, C., Gao, Y., Wang, P., Raine, A., Botwick, T., & Baker, L. A. (2013). The genetic and environmental etiology of decision-making: A longitudinal twin study. *Journal of Adolescence, 36*(2), 245–255. doi:10.1016/j.adolescence.2012.10.006

Ryan J. Watson, PhD, is a post-doctoral fellow at the University of British Columbia, in Vancouver, Canada. His primary research interest is the health and well-being of sexual minority adolescents.

Daniel A. McDonald, PhD, is an Area Associate Agent and Associate Regional Specialist with Pima County Cooperative Extension at the University of Arizona. He has developed, implemented, and evaluated positive youth development outreach programs statewide, regionally, and nationwide.

Ruth Carter recently retired from her position of Associate Agent at Maricopa County Cooperative Extension, University of Arizona. She provided education, developed programs and curriculum, and conducted research in youth and family issues.

Joseph M. Russo is the Teen Pregnancy Prevention Program Manager at the Arizona Department of Health Services. He has worked with youth development programs in a variety of settings, with a special interest in programs serving youth in foster care.