

FROM PROGRAM EVALUATION TO PRACTICE-BASED EVIDENCE:
A WAIT-LIST CONTROL EVALUATION OF THE *ANYTOWN* PROGRAM

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ABSTRACT

FROM PROGRAM EVALUATION TO PRACTICE-BASED EVIDENCE: A WAIT-LIST CONTROL EVALUATION OF THE *ANYTOWN* PROGRAM

by Kara L. Beck

Research driven programs are commonly developed without the input of communities and as such can be difficult to disseminate, challenging for community agencies to sustain, and limited in their ecological validity. One alternative to research driven programming is exploring the effectiveness of community programs already in place in a community by conducting practice-based evidence research. *Anytown*, a community-based program that seeks to prevent social prejudices and discrimination, is one such program. While prior evaluations of *Anytown* have produced promising results regarding the program's effectiveness, these evaluations have been limited in their scientific rigor. This study moves from evaluation to scientific practice-based evidence by improving on the design and theoretical basis of the evaluation. Archival data from *Anytown* program evaluations was used. Results suggest that the program has positive effects on diversity acceptance, intergroup contact, cognitive processes related to prejudice control and identity. Results provide preliminary evidence that the program may operate on diversity acceptance in part through decreases in identity confusion.

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CHAPTER I

INTRODUCTION

From Program Evaluation to Practice-Based Evidence: A Wait-list Control Evaluation of the *Anytown* Program

Approximately 6.5 million school-aged youth in the United States participate in some type of program after school (Afterschool Alliance 2004; Carver and Iruka 2006). Large and small, these community-based programs focus on a wide spectrum of outcomes from sports participation to diversity acceptance and are implemented by local government, community organizations, religious institutions, and private groups (National Research Council and Institute of Medicine, 2002). In general terms, these programs seem to benefit their participants (Yates & Masten, 2004). For example, a review of research on such programs found that young people who participate in structured activities after school experience increased intrinsic motivation and initiative (Larson et al., 2004) and a study looking specifically at a prejudice reduction program found increases in self-esteem and decreases in prejudice after participation (London, Tierney, Buhin, Greco, & Cooper, 2002).

Despite their prevalence and apparent helpfulness, most community-driven programs are not based on science. In fact, the development and implementation of community programs for youth has been described as more art than science (National Research Council and Institute of Medicine, 2002). Such interventions are often initiated when a community member or group sees a need in the community and builds a program to meet that need (National Research Council and Institute of Medicine, 2002). Although such origins increase the likelihood that the program is relevant to the community, they also decrease the likelihood that programming will be supported by research. One well-known example of this is the Drug Abuse Resistance Education (DARE)

Program, developed originally by a police officer who recognized a need for substance abuse prevention among youth (DARE America, 1996). Although millions of children have participated in DARE (DARE America, 1996), a number of studies have found DARE to be ineffective in preventing youth substance use (Britt & Jachym, 2004; Ennett, Tobler, Ringwalt, & Flewelling, 1994). While the generally positive findings of overall reviews of community programs for youth would suggest that not all community-based programs are ineffective (Larson et al., 2004), the case of DARE illustrates their potential shortfalls.

In contrast to the community-based approach to developing programming for youth, scientists have traditionally used an approach in which controlled tests of the efficacy of interventions extracted from basic science are conducted and then dissemination into real-world settings of those interventions that are found to be efficacious is attempted (Biglan, Mrazek, Carnine, & Flay, 2003; Spoth et al., 2011). Although the rationale behind this approach is that communities will be offered programs with a scientific basis and evidence of efficacy, there are some notable problems with this approach. First, dissemination is a difficulty with research-driven programs. Although many effective programs have been developed by researchers and catalogued by supporting public health agencies, their use continues to be limited compared to other programs (Biglan et al., 2003). For example, one researcher found that out of more than 1,500 programs funded by one grantor only 20% were supported by research (Slavin, 2002). Scientists have made suggestions as to how to improve this process, including capacity building for prevention efforts within community agencies (Wandersman & Florin, 2003), reporting research results directly to community agencies (Reese, 2007), and campaigns to persuade community agencies to utilize evidence-based programs (Biglan et al., 2003). While these

suggestions might improve the dissemination of effective programs, they also require additional resources.

A second problem with the science-to-practice model of youth programming is that sustainability is often not achieved. After being trained in implementing the program, community practitioners need to be trained in sustainability practices so that the program can continue in an effective manner (Spoth et al., 2011). Even when this training is complete, these programs often exist only as long as external funding is available to support them. In order to maintain youth programs long term, there must be an infrastructure in the community that can support them (Hawkins, Shapiro, & Fagan, 2010).

A final problem with youth programs developed through a science-to-practice approach is their potential lack of ecological validity. Ecological validity refers to how closely the environmental conditions assumed by the intervention matches the environment where the intervention is implemented (Bernal & Saez-Santiago, 2006). Variables that are important in ensuring the ecological validity of interventions in the context of a community include language, relationships between participants and practitioners, culturally-relevant metaphors, local values and customs, goals of the intervention, and the socioeconomic and political climate of the community (Bernal & Saez-Santiago, 2006). Ecologically valid interventions have been found to have average effects that are up to four times larger than those of non-ecologically valid interventions (Griner & Smith, 2006; National Research Council and Institute of Medicine, 2002; Yates & Masten, 2004). Such findings raise concerns about the significant differences that can exist between the laboratory settings where science-to-practice interventions are developed and the community environments where they are to be implemented.

Practice-based Evidence

One alternative to the traditional science-to-practice approach is to assess community-driven programs already being implemented in order to begin building practice-based evidence of effective programs (Green, 2006; Urban & Trochim, 2009). By their nature, community-driven programs are not as likely to suffer from the previously discussed limitations of science-to-practice programs (Wandersman & Florin, 2003). Because they already exist within the community, dissemination is not a problem. Programs with a long-term presence in a community have typically developed infrastructures for sustainability that science-to-practice programs struggle to gain. Finally, their development and implementation within the community increases the likelihood that they are ecologically valid (Barkham & Mellor-Clark, 2003). These specific advantages support the suggestion that the use of research to test and refine community programs can in some cases offer a viable alternative to a science-to-practice model (Chwarlisz, 2003).

The development of practice-based evidence begins with program evaluation (Jacobs, 2003). While program evaluation shares many of the methods and approaches of scientific research, its focus is on determining whether a specific program is effective in meeting its objectives rather than developing generalizable insights about observable phenomena (Posavac, 2011). When compared to traditional human subjects research, this difference in goals results in meaningful differences such as the focus on measurement at the program level rather than the participant level (and the ensuing use of single-item measures rather than psychometrically developed scales) and the incorporation of quasi-experimental designs that are less likely to create a program administration burden than randomized control trials (Posavac, 2011).

When program evaluation suggests that a program meets its objectives, the process of developing practice-based evidence can move on to developing and testing theories of change

(Jacobs, 2003). At this point, more scientifically rigorous methods are deployed, including the use of psychometrically derived measurement, theory-based research design, and research designs that involve or approximate randomized control trials. The work conducted in the context of a long-standing partnership between researchers and *Anytown*, a community-based youth development program focused on increasing young people's social responsibility and acceptance of diversity, illustrates the process of developing practice-based evidence and is detailed below.

The *Anytown* Program

Anytown is a youth development program developed by the National Conference for Community and Justice (NCCJ) to promote diversity acceptance among youth and to give them the leadership skills necessary to encourage diversity awareness and acceptance in others (Community Tampa Bay, 2006). It is a short-term residential program that typically lasts one week. For the week, youth are intentionally assigned to dorms and small groups such that they are maximally exposed to peers whose background differs significantly from their own in terms of race, ethnicity, religion, gender, socioeconomic status, and sexual orientation. Within this context, teens participate in educational and skill-building activities to develop cultural sensitivity and social responsibility. These activities include workshops regarding sexism and racism, the effects of systemic oppression, and the causes of hate crimes and genocide as well as a variety of other topics related to diversity and discrimination. After participating in such workshops, the teens participate in dialogue groups to discuss the implications of the topics for themselves and their behavior. At the site under consideration in Tampa Bay, Florida, the program includes approximately 50 youth each session (Community Tampa Bay, 2006).

Previous Evaluations

As is often characteristic of the initial steps in developing practice-based evidence, most of the existing peer-reviewed literature examining the effects of *Anytown* might be best characterized as program evaluation. For example, in the first peer-reviewed examination of the *Anytown* program's effects, Boulden (2004, 2007) employed a simple one group pre- and post-test design with single-item measures that documented increases in knowledge and attitudes regarding sexual orientation, gender identity, and race.

Subsequent examinations of the *Anytown* program's effects have sought to improve upon Boulden's design and to better establish a connection with the relevant literature. For instance, Otis and Loeffler (2005), though still employing a pre-post design, implemented an improved measurement that included psychometrically-derived multi-item measures. Using this approach, these researchers documented changes in self-concept (assessed via the *What Do I Think About Me Scale*; Scales & Leffert, 1999), personal and civic responsibility (assessed via the *Personal/Civic Responsibility Scales*; Scales & Leffert, 1999), race-based prejudice (assessed via the *Attitudes and Opinions Scale* designed by the study's authors), heterosexism (assessed via the *Index of Attitudes toward Homosexuality*; Hudson & Ricketts, 1980), and gender equality (assessed via a six-item scale designed by the study's authors).

Acevedo-Polakovich, et. al (2012) detail a series of studies that together seek to begin transitioning the examination of the *Anytown* program from the domain of program evaluation and into scientific exploration. In study 1, these researchers employed a non-equivalent control group design and found that, compared to students enrolled in social science courses at the same high schools from which *Anytown* participants are recruited (N = 350), *Anytown* participants (N = 325) achieved greater increases in several scales including the Definitions of Discriminatory

Terms measure (NCCJ, 2003), the Youth Social Competence Scale (NCCJ, 2003), the Youth Diversity Acceptance Scale (Lyons, 2005), the Youth Social Responsibility Scale (Pancer, 1997), and the Youth Inventory of Involvement (Pancer, 1997). Importantly, most differences between groups remained significant at follow up. In study 2, these researchers attempt to begin establishing a connection between *Anytown* and the relevant scientific literature by examining whether mediators identified through a logic modeling exercise could account for the changes in *Anytown* participants' (N = 164) scores on diversity acceptance before and after program participation. Results documented positive changes on the Youth Diversity Acceptance Scale (Lyons, 2005), the Definitions of Discriminatory Terms measure, the Collective Identity Scale (Cheek, Smith, & Tropp, 2002), and two measures of intergroup contact, and identified changes in Intergroup Closeness as statistically significant mediators of changes in diversity awareness. In study 3, these researchers employed an expert consensus methodology to identify additional potential mediators that might account for program effects. Results of this approach suggested that, in addition to intergroup contact processes, other potential mediators that might be explored include group categorization strategies and changes in specific cognitive processes (i.e., awareness, defusion, and action) as related to prejudice, stereotyping and discrimination.

The current study has attempted to build upon previous efforts in two important ways. First, it sought to increase methodological rigor beyond that used in previous evaluations by examining data collected using a wait-list control design that incorporated psychometrically derived measures. Second, it explored some of the possible mediators of the program's effects on diversity acceptance identified in previous conceptual examinations of *Anytown*. Before describing the proposed method, the literature in support of each of the proposed mediators being examined is described. It should be noted that—in addition to specific mediators identified

through expert consensus in Acevedo-Polakovich et al's (2012) third study (i.e., intergroup contact, awareness, defusion, and action)—this study also examined the potential mediating role of identity development, a variable that was identified in the original logic modeling exercise conducted in the context of Acevedo-Polakovich et al's (2012) second study.

Proposed Mediators

Intergroup Contact

Intergroup contact has long been foundational to the psychological understanding of prejudice and its reduction (e.g., Allport, 1954). Several decades worth of research into this process have shown relatively consistent effects of intergroup contact on prejudice (Pettigrew & Tropp, 2006; Pettigrew, Tropp, Wagner, & Christ, 2011). As mentioned in the introduction, intergroup contact is to date the only established mediator of the *Anytown* program's effects on participant's diversity acceptance (Acevedo-Polakovich et al., 2012). The proposed study will test the assumption that changes in intergroup emotional closeness accounts for independent proportions of the variance in diversity acceptance change.

Bias awareness, defusion, and action. The application of relational frame theory (RFT; Hayes, 2004) to the understanding of prejudice, stereotyping and discrimination points to three key processes underlying for prejudice reduction: bias awareness, bias defusion, and personal commitment to positive action (Lillis & Hayes, 2007). Though limited, the emerging research examining the effects of interventions based on this account of stereotyping, prejudice, and discrimination have documented positive results (e.g., Biglan, 2009; Lillis & Hayes, 2007). These processes may have relevance for the *Anytown* program because of the similarities between the program and an RFT related intervention (Lillis & Hayes, 2007) in the way

participants in the program are asked to recognize, accept, and commit to action that opposes their own biased thoughts.

The proposed study will test two related assumptions involving these processes. First, it will test whether there are increases in adolescents' awareness, defusion, and commitment to positive associated with participation in the *Anytown* program. Second, it will test whether these increases account for independent proportions of the variance in diversity acceptance change.

Identity Development. In previous evaluations of the *Anytown* program, conceptualizations of identity that the researchers believed had a strong theoretical link to diversity acceptance (e.g. collective identity or the strength of one's identification with groups one belongs to) were not found to be strongly related to the program or increases in diversity acceptance related to the program (Acevedo et al., 2012). Nonetheless, community practitioners continue to believe that identity development is an important aspect of the effects of the program and participants' increases in diversity acceptance. One popular psychological definition of identity operationalizes it as a balance between one's individuality and one's fit in a social context (Erikson, 1968). According to this understanding, successful integration of the intrapersonal and interpersonal aspects of oneself into a set of ideals is considered identity synthesis (Schwartz, 2001). In contrast is identity confusion, which is represented by a lack of understanding of oneself as an individual and/or within a social context (Schwartz, 2001). High identity synthesis and low identity confusion have been conceptually linked to decreased prejudice (Erikson, 1968). The proposed study will examine related assumptions involving identity. First, that participation in the *Anytown* program is associated with significant changes in identity synthesis and identity confusion. Second, that these increases account for independent proportions of the variance in diversity acceptance change.

Goals and Objectives of the Current Study

The current study builds upon previous research efforts that have examined the *Anytown* program by employing a wait list control design and by testing possible mediators of the program's effects on diversity acceptance. Two specific hypotheses are being tested.

Hypothesis One

It was predicted that participation in *Anytown* would be associated with positive changes in each of the variables considered in this study. Both groups were expected to show positive changes in all variables measured from before to after participation in *Anytown* (Time 1 to Time 2 for treatment and Time 2 to Time 3 for control). Further, it was expected that changes in the treatment group from Time 1 to Time 2 and changes in the control group from Time 2 to Time 3 would be significantly greater than changes in the control group from Time 1 to Time 2.

Hypothesis Two

The effects of *Anytown* on diversity acceptance were expected to be mediated by other benefits students obtained through participation in the program. Specifically, it was expected that increases in identity development, awareness and acknowledgment of bias, acceptance and flexibility, thought control and general defusion skills, positive action intentions, number of intergroup friends, and intergroup closeness would mediate the relationship between participation in *Anytown* and increased diversity acceptance.

CHAPTER II

METHOD

Participants

During the 2009-2010 school year, 130 students were recruited from high schools in the Hillsborough and Pinellas county areas by staff and volunteers of Community Tampa Bay Inc. After volunteering, students were assigned to either a treatment or wait-list control group. 67 students were assigned to the treatment group and 63 students were assigned to the wait-list control group. Group assignment was guided by an overarching focus on creating maximally demographically diverse cohorts of participants with regards to race, ethnicity, gender, religion, and SES. A summary of participants' responses to open-ended demographic questions can be seen in Table 1. A chi-square test of independence indicated no significant differences between groups on any of the demographic variables.

Table 1. *Participant Demographic Information*

Characteristic	Treatment (%)	Control (%)
Gender		
Male	41.8	44.4
Female	53.7	52.4
Race		
African-American	32.8	50.8
Caucasian	26.9	22.2
Hispanic	17.9	7.9
Asian	9.0	3.2
Multiracial	7.5	11.1
Religion		
Christian	73	86
Not Reported	19	11
Other	12	8
Grade		
7	1.5	0
8	3.0	1.6
9	14.9	27.0
10	32.8	31.7
11	31.7	19.0
12	16.4	17.5

Measures

Youth Diversity Acceptance Scale-Revised (YDAS; Lyons, 2006)

This 7-item scale was originally developed through interviews of *Anytown* staff and literature review of prejudice-reduction research, and refined through factor-analytic examination (Lyons, 2006). It measures attitudes young people have toward individuals who are different from them with questions that indicate specific groups that have commonly been marginalized in the United States (see Appendix A). Participants are asked to rate statements regarding these attitudes (e.g. “I spend time with people from different ethnic background;”) on a five-point likert scale with anchors from “Never” to “Very Often.” In prior research, this scale has been shown to have good internal consistency, with Cronbach's alpha levels from 0.74 (Hawks, 2010) to 0.81 (Lyons, 2006).

Erikson Psychosocial Stage Inventory (EPSI) Identity Subscales (Appendix B; Rosenthal, Gurney, & Moore, 1981)

The eight items on the EPSI identity subscales were extracted from the original EBPSI pool of 12 items through psychometric examination (Schwartz, Zamboanga, Wang, & Olthuis, 2009). These subscales measure identity synthesis and identity confusion by asking participants to rate statements regarding their understanding of themselves on a five-point likert scale with anchors from “Strongly Disagree” to Strongly Agree.” Items regarding identity synthesis address understanding oneself (e.g. “I've got it together”) while items regarding identity confusion address a lack of self-understanding (“I feel mixed up”). The factor analytic work underlying the creating of these scales suggests that synthesis and confusion can be considered two closely related aspects of overall identity development, thus allowing for the computation of three

subscales from this pool of items: synthesis, confusion, and overall identity development (Schwartz, Zamboanga, Wang, & Olthuis, 2009). The proposed study will employ each of these three scales, which in previous research have produced Cronbach's alpha values ranging between 0.82 and 0.83 (Schwartz, Zamboanga, Wang, & Olthuis, 2009).

Prejudicial Biases Awareness, Defusion, and Action Questionnaire-Revised (Lillis & Hayes, 2007)

This 15-item measure was developed to assess an individual's use of awareness, defusion, and commitment to positive action to deal with prejudicial or discriminatory thoughts. Although the measure is not a psychometrically derived scale, it is divided into four theoretically-determined subsets of items: awareness and acknowledgment of bias, acceptance and flexibility, thought control and general defusion skills, and positive action intentions (see Appendix C). These items ask participants to rate statements regarding their bias (e.g. "I feel that I am aware of stereotypes and prejudices that I have"), thought acceptance ("Its OK to have prejudicial thoughts or stereotypes"), thought control (e.g. "When I evaluate someone negatively, I can recognize that it's just a reaction, not an objective fact"), and intent to act (e.g. "I would attend a social event where I was the only person with my background.") on a five-point likert scale with anchors from "Strongly Disagree" to "Strongly Agree." In previous research individuals who participated in training intended to reduce prejudice showed significant increases on these items (Lillis & Hayes, 2007).

Intergroup Contact (Hawks, 2010)

Consistent with prior literature (e.g.,Tropp & Pettigrew, 2005), intergroup contact was measured in two forms (see Appendix D). First, participants were asked to report the number of

friends they have who are different from them in various ways (e.g. “How many friends do you have whose gender is different from yours?”). Next, they were asked to rate their feelings of closeness to each of those groups of friends on a five-point likert scale with anchors from “Not Close at All” to “Extremely Close.”

Procedures

As summarized in Table 2, data were collected from participants at four points in time. At time one, the intervention group completed surveys at the location of the *Anytown* program while the control group was contacted by Community Tampa Bay staff and completed the surveys with staff on an individual basis. At all other times that the groups completed the surveys, they did so at the location of the *Anytown* program. The intervention group participated in the program between data collection points 1 and 2, while the wait-list control group participated in the program between data collection points 3 and 4.

Table 2. *Data Collection*

Group	Time 1	Time 2	Time 3	Time 4
Intervention Group	X	X		
Wait-list Control	X		X	X

CHAPTER III

RESULTS

Hypothesis One

The first hypothesis tested in the current study was that participation in *Anytown* would be associated with positive changes in each of the variables considered in this study. Several hierarchical multiple regressions were performed to test this hypothesis. In each of these regressions, Time 1 levels of the dependent variable were included as a first step predictor. At a second step, a dummy coded variable created to differentiate participants in the *Anytown* intervention—each of whom was given a value of 1—from participants in the wait list control group—each of whom was given a value of 0—was entered as a predictor. As can be seen in Table 3 and consistent with Hypothesis 1, after controlling for Time 1 levels of each of the dependent variables, participation in the intervention significantly predicted diversity acceptance ($\beta = .45, t(92) = 5.94, p < .001$), identity synthesis ($\beta = .27, t(95) = 2.92, p < .01$), identity confusion ($\beta = -.22, t(94) = -2.43, p < .05$), overall identity ($\beta = .26, t(86) = 2.82, p < .01$), control of biased thoughts ($\beta = .28, t(103) = 2.95, p < .01$), positive action intentions ($\beta = .42, t(98) = 4.59, p < .001$), intergroup contact ($\beta = .18, t(70) = 2.02, p < .05$), and intergroup closeness ($\beta = .26, t(51) = 2.41, p < .05$). However, contrary to Hypothesis 1, results did not support a significant effect of the intervention on bias awareness ($\beta = .14, t(97) = 1.42, p = .16$) or bias acceptance ($\beta = -.16, t(106) = -1.69, p = .09$).

Table 3. Summary of Hierarchical Regression Analysis for Effect of Intervention

Variable	DV = Time 2 Number of Intergroup Friends					DV = Time 2 Diversity Acceptance				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.43	.43***				.27	.27***
Time 1 score	1.04	.14	.66***			.55	.09	.52***		
Step 2				.45	.03*				.47	.20***
Time 1 score	.97	.15	.61***			.52	.08	.49***		
Group	29.44	14.56	.18*			.58	.10	.45***		
Variable	DV = Time 2 Identity Synthesis					DV = Time 2 Identity Confusion				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.12	.12**				.18	.18***
Time 1 score	.33	.09	.34**			.48	.10	.43***		
Step 2				.19	.07**				.23	.05*
Time 1 score	.37	.09	.37***			.48	.10	.43***		
Group	.38	.13	.27**			-.32	.13	-.22*		

Variable	DV = Time 2 Total Identity					DV = Time 2 Intergroup Closeness				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.21	.21***				.35	.35***
Time 1 score	.45	.09	.46***			.74	.14	.59***		
Step 2				.28	.07**				.42	.07*
Time 1 score	.46	.09	.47***			.69	.14	.56***		
Group	.31	.11	.26**			.54	.22	.26*		

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

Table 3. Summary of Hierarchical Regression Analysis for Effect of Intervention (continued)

Variable	DV = Time 2 Bias Awareness					DV = Time 2 Bias Acceptance				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.06	.06*				.06	.06*
Time 1 score	.26	.10	.25*			.27	.11	.24*		
Step 2				.08	.02				.08	.03
Time 1 score	.26	.10	.24*			.28	.11	.25*		
Group	.23	.16	.14			-.34	.20	-.16		
Variable	DV=Time 2 Bias Control					DV=Time 2 Positive Action Intentions				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.01	.01				.04	.04
Time 1 score	.12	.10	.12			.22	.12	.19		
Step 2				.09	.08**				.21	.17***
Time 1 score	.15	.10	.15			.28	.11	.24*		
Group	.44	.15	.28**			.67	.15	.42***		

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

Hypothesis Two

The second hypothesis tested in the current study was that the relationship between participation in *Anytown* and increased diversity acceptance would be mediated by increases in identity development, awareness and acknowledgment of bias, acceptance and flexibility, thought control and general defusion skills, action intention, number of intergroup friends, and intergroup closeness. To test the second hypothesis, the causal steps approach of mediation analysis was used (Baron & Kenny, 1986; Hayes, 2009). The first step of establishing a relationship between program participation and change in diversity acceptance was satisfied by the regression used to test the first hypothesis. The second step in this approach—showing that group assignment is correlated with the mediators—was also examined in the course of the analyses conducted to test hypothesis one, when it was successfully demonstrated that participation in the intervention significantly predicted changes in most (i.e., identity synthesis, identity confusion, overall identity, control of biased thoughts, positive action intentions, intergroup contact, and intergroup closeness) but not all (i.e., bias awareness and acceptance) of the proposed mediators.

The third step and fourth steps of the causal steps approach were only completed with those mediators that were found to be significantly related to program participation at Step 2. The purpose of the third step is to show that the mediator affects the outcome variable. The purpose of the fourth step is to show that when the indirect effect of the independent variable (i.e. program participation) on the outcome variable (i.e. increased diversity acceptance) through the mediator is allowed to account for variance, the direct relationship between the independent variable and outcome variable accounts for less variance. These steps were tested using separate

hierarchical multiple regressions for each mediator. In the first step of each regression, Time 2 diversity acceptance scores were regressed on to Time 1 diversity acceptance scores. In the second step, the dummy variable for group vs. wait list assignment was added as a predictor. At the third step, a variable representing the standardized residual variance left after regressing Time 2 levels of a mediator on to baseline levels of the same mediator was added to the model. These standardized residual variables offer a representation of change that is less biased by the individual's pre-test score and allows comparison across variables (Hauser-Cram & Wyngaarden, 1991). As summarized in Table 4 and illustrated in Figure 1, results indicate that identity synthesis, (a), identity confusion (b), overall identity (c), control of biased thoughts (d), and positive action intentions (e) partially mediate the effect of the intervention on diversity acceptance. Contrary to hypothesis two, neither indicators of intergroup contact acted as mediators of the relation between group assignment and diversity acceptance.

Table 4. Summary of Hierarchical Regression Analysis for the Mediation between Diversity Acceptance and Intervention Participation, with Post-intervention Diversity Acceptance as the Dependent Variable

Variable	Mediator = Positive Action Intentions					Mediator = Bias Control				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.28	.28***				.27	.27***
Post-intervention DA	.55	.10	.53***			.55	0.10	.52***		
Step 2				.49	.21**				.47	.21***
Post-intervention DA	.52	.08	.50***			.52	0.08	.49***		
Group	.60	.10	.46***			.59	.10	.46***		
Step 3				.53	.04*				.50	.03*
Post-intervention DA	.50	.08	.48***			.51	.08	.48***		
Group	.49	.11	.37***			.53	.10	.41***		
Mediator change	.14	.06	.21*			.11	.05	.18*		
Variable	Mediator = Total Identity					Mediator = Identity Confusion				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.21	.21***				.24	.24***
Post-intervention DA	.45	.10	.46***			.48	0.09	.49***		
Step 2				.48	.27***				.46	.22***
Post-intervention DA	.41	.08	.43***			.45	.08	.46***		
Group	.60	.10	.52***			.55	.10	.47***		
Step 3				.52	.04*				.49	.03*
Post-intervention DA	.42	.08	.43***			.44	.08	.45***		
Group	.53	.10	.46***			.50	.10	.43***		
Mediator change	.12	.05	.21*			-.10	.05	-.18*		

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

Table 4. Summary of Hierarchical Regression Analysis for the Mediation between Diversity Acceptance and Intervention Participation, with Post-intervention Diversity Acceptance as the Dependent Variable (continued)

Variable	Mediator = Identity Synthesis					Mediator = Intergroup Closeness				
	B	SE B	β	R ²	ΔR^2	B	SE B	β	R ²	ΔR^2
Step 1				.21	.21***				.16	.16**
Post-intervention DA	.46	.10	.46***			.40	0.14	.40**		
Step 2				.47	.25**				.49	.34***
Post-intervention DA	.44	.08	.44***			.43	.11	.44***		
Group	.61	.10	.50***			.69	.13	.58***		
Step 3				.51	.05**				.50	.00
Post-intervention DA	.44	.08	.44***			.41	.11	.41**		
Group	.55	.10	.45***			.66	.14	.55***		
Mediator change	.14	.05	.22**			.04	.07	.07		
Variable	Mediator = Intergroup Contact									
	B	SE B	β	R ²	ΔR^2					
Step 1				.16	.16**					
Post-intervention DA	.45	.13	.40**							
Step 2				.43	.27***					
Post-intervention DA	.49	.11	.44***							
Group	.69	.13	.52***							
Step 3				.44	.01					
Post-intervention DA	.50	.11	.45***							
Group	.67	.13	.51***							
Mediator change	.05	.06	.08							

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

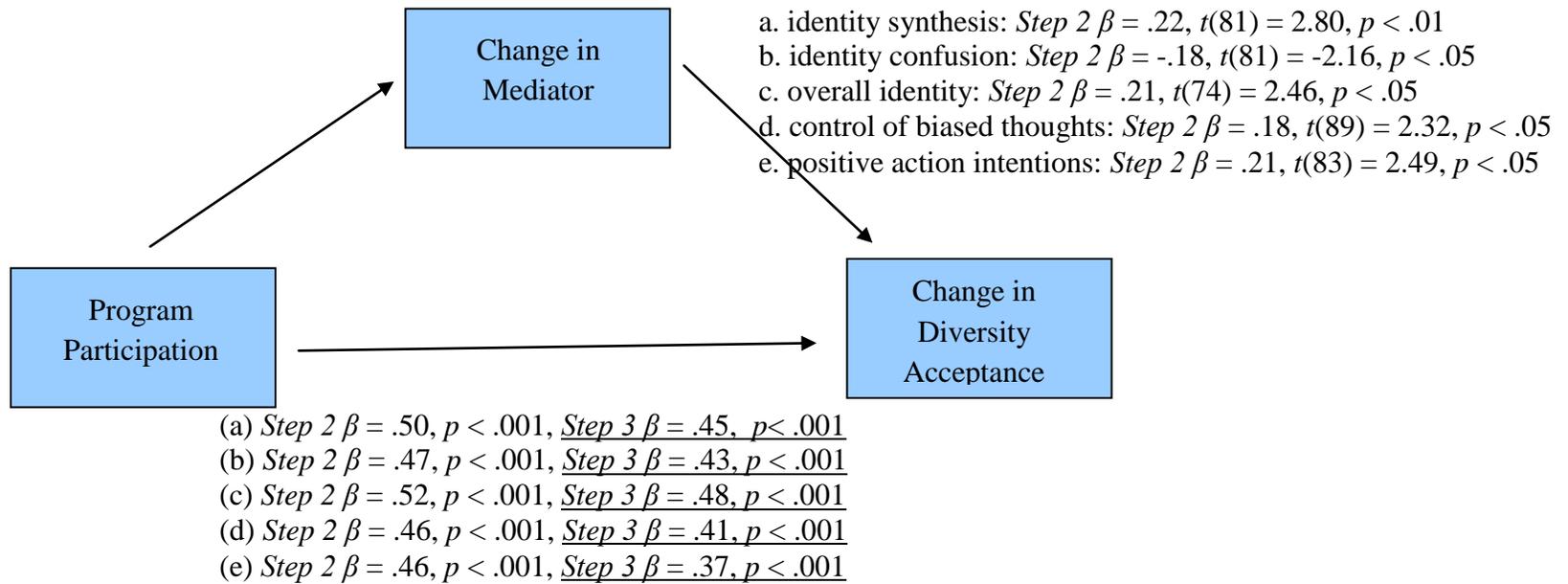


Figure 1. *Mediation Models*

Sobel's formula was used to calculate the significance of the indirect effect of the independent variable of program participation on the dependent variable of diversity acceptance through each of the mediators. This test indicated that there were significant indirect effects through identity synthesis (Sobel test statistic = 2.02, $p < .05$) and positive action intentions (Sobel test statistic = 2.07, $p < .05$) and that there was a trend toward significance for the indirect effects through overall identity (Sobel test statistic = 1.83, $p = .07$) and control of biased thoughts (Sobel test statistic = 1.76, $p = .08$). There was not a significant indirect effect on diversity acceptance through identity confusion (Sobel test statistic = 1.55, $p = .12$).

Post Hoc Analysis

In order to examine the relative contribution of each of these mediators to the changes in diversity acceptance associated with participation in the *Anytown* program, a series of additional hierarchical regressions were run. The first two steps of these regressions paralleled those of the regressions modeling the effects of participation in *Anytown* on diversity acceptance and described in the previous section of this paper. At step 3, all of the standardized residuals for most of the variables that were found to be significant mediators of the effects of *Anytown* on diversity acceptance were added. Because the total identity score is a composite of both identity subscales (i.e., identity synthesis and identity confusion) and this could introduce collinearity problems, it was the only identity variable entered at step three of this first regression. The results are summarized in Table 5. As can be observed, total identity was the only mediator found to be a significant predictor of diversity acceptance after controlling for initial diversity acceptance scores and program participation.

Table 5. *Post-hoc Analysis of Mediators: Total Identity and RFT variables*

	B	SE B	β	R ²	ΔR^2
Step 1 Pre-intervention diversity acceptance score	.45	.10	.47***	.22	.22**
Step 2 Pre-intervention diversity acceptance score	.43	.08	.44***	.50	.28***
Group	.62	.10	.53***		
Step 3 Pre-intervention diversity acceptance score	.42	.08	.44***	.57	.06*
Group	.53	.11	.46***		
Total Identity change	.11	.05	.19*		
Control of Biased Thoughts Change	.09	.06	.14		
Positive Action Intentions Change	-.02	.07	-.03		

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

As previously stated, total identity is a composite that includes the items in both the identity synthesis subscale and the identity confusion subscale. In order to determine whether either of these subscales accounted for the mediating effects of total identity, a second hierarchical regression was run with the two identity variables added at the third step. The results are summarized in Table 6. Although neither identity confusion nor identity synthesis was statistically significant in this regression analysis, identity confusion showed an effect that trended toward significance ($\beta = -.16$, $t(73) = -1.77$, $p = .08$). Because this was the case, a third post-hoc analysis was run to determine whether the effects of identity confusion were robust to

the inclusion of the additional mediators in the first post hoc regression. As can be seen in Table 7, identity confusion shows a similar effect in relation to diversity acceptance when these additional mediators are included in the model ($\beta = -.16$, $t(71) = -1.87$, $p = .07$).

Table 6. *Post-hoc Analysis of Mediators: Identity Synthesis and identity Confusion*

	B	SE B	β	R ²	Δ R ²
Step 1				.21	.21***
Pre-intervention diversity acceptance score	.45	.10	.46***		
Step 2				.48	.27***
Pre-intervention diversity acceptance score	.41	.08	.43***		
Group	.60	.10	.52***		
Step 3				.50	.04*
Pre-intervention diversity acceptance score	.41	.08	.43***		
Group	.53	.10	.46***		
Identity Confusion	-.09	.05	-.16		
Identity Synthesis	-.02	.07	-.03		

Table 7. *Post-hoc Analysis of Mediators: Identity Confusion and RFT Variables*

	B	SE B	β	R ²	Δ R ²
Step 1				.25	.25***
Pre-intervention diversity acceptance score	.49	.10	.50***		
Step 2				.48	.23***
Pre-intervention diversity acceptance score	.46	.08	.47***		
Group	.57	.10	.48***		
Step 3				.53	.05
Pre-intervention diversity acceptance score	.45	.08	.46***		
Group	.46	.11	.38***		
Identity Confusion	-.09	.05	-.16		
Control of Biased Thoughts	.06	.06	.10		
Positive Action Intentions	.05	.06	.08		

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

CHAPTER IV

DISCUSSION

Many of the risk-prevention and youth development programs available today are community-based programs that are not based on research. Although—in contrast to programs developed empirically and disseminated later—community-based programs have high ecological validity and are likely to be sustainable, they still waste resources if they are not effective. One solution to this problem is the development of practice-based evidence for those programs that are effective. Typically, this process begins with program evaluation, which often utilizes single-item measures based exclusively on the stated goals of the program. When results of program evaluation are possible and research progresses, more rigorous methodology and stronger theoretical basis is used to develop practice-based evidence. In the case of the *Anytown* program, previous efforts at program evaluation have yielded promising results. The current study sought to expand on the evidence for the program methodologically by employing a wait-list control group against which to compare the effects of the program. Further, it sought to strengthen the theoretical basis of the program by employing measures of possible mediators of the program's effects.

Consistent with the first hypothesis of the current study results suggest that, compared to a wait-list control group, *Anytown* program participation leads to significant changes in diversity acceptance, identity synthesis, identity confusion, overall identity, control of biased thoughts, positive action intentions, intergroup contact, and intergroup closeness. These results support and expand on previous research suggesting that the *Anytown* program is effective (Acevedo-Polakovich, et al., 2012; Boulden 2005; Boulden 2007; Otis & Loeffler, 2005). Moreover, the wait-list control design allows greater confidence that the positive changes that have been

observed in *Anytown* program participants are related to the program. Although the wait-list control group comparison was an important methodological advance relative to previous program evaluations of the *Anytown* program, future research can incorporate greater methodological rigor such as the employment of a randomized control trial. However, current findings add to the growing body of evidence suggesting that the *Anytown* program provides benefits to its participants.

Results also provide evidence that identity synthesis, identity confusion, overall identity, control of biased thoughts, and positive action intentions partially mediate the effect of the *Anytown* program on diversity acceptance; however, total identity was the only mediator to retain its statistical significance in a regression that simultaneously included each of these variables. This relation between identity and increased diversity acceptance is consistent with the Eriksonian conception of a mature identity as one that has integrated ideas of self and society in a way that allows different others to retain their own identities (Hoare, 2002). Subsequent examination of current data raises the possibility that the mediating effect of changes in total identity may be due to reductions in identity confusion. However, mixed findings regarding this possibility suggest that future research is necessary to determine the exact mechanism by which identity influences diversity acceptance. Should future research confirm current findings, the identification of mediators of the *Anytown* program's effects can help strengthen the implementation of the program by allowing community practitioners to emphasize activities that are thought to foster change in said mediators.

Although intergroup contact has long been understood to contribute to increased acceptance of people different from oneself, in the current study it was not found to mediate the effects of the program on increased diversity acceptance. The lack of a mediating effect of

intergroup closeness is notable, as this has been found to mediate the effects of the *Anytown* program on diversity acceptance in previous evaluations (Acevedo-Polakovich, et al., 2012). Although the failure to confirm a mediating effect for intergroup closeness may indicate that intergroup contact is less important to the effects of the *Anytown* program, this result may also arise from methodological limitations of the current study. For example, the small sample size in this study may have resulted in a lack of statistical power to reveal a result. Future research is needed that further explores the role of intergroup contact within the context of the *Anytown* program. Until such research is conducted, any recommendations for practice would be premature.

Limitations of the current study are consistent with those expected of research on community-based programs that develops from program evaluation. Although the move from program evaluation to practice-based evidence included the implementation of a wait-list control group against which to compare program participants, practical programmatic needs prevented the participants from being randomly assigned into groups. The implementation of more rigorous designs, including randomized control trials or time-series analysis designs, can strengthen the types of inferences that can be drawn from future studies into the effectiveness of the *Anytown* program. Random assignment would increase confidence in the equivalence across groups, improving the evidence that the *Anytown* program is the cause of effects shown. However, because of the practical limitations of using random assignment within this program time series analysis may represent a viable alternative that also controls for alternative explanations of effects shown without the difficulties imposed by implementing randomly assigned control group.

Time series analysis would also help to address a second limitation of this study. As the measures used in this study involve both behavioral and attitudinal change, it is important to note the lack of a long-term follow-up in this study. It would be beneficial to know whether different perspectives or behaviors participants identified in themselves immediately following program participation were maintained or built upon over time. Results of previous program evaluations indicate that this is likely (Acevedo-Polakovich, et al., 2012), but future research should confirm these results within the context of a research study that includes a long term follow up.

Finally, it should be noted that—although there is good preliminary evidence for the internal and external validity of the youth diversity acceptance scale (i.e., Acevedo-Polakovich, Beck & Rossman, 2012), the scale was developed specifically to assess diversity acceptance in a manner that is concordant with the understanding of this construct among the community practitioners who implement the *Anytown* program. Although this increases the ecological validity of the measure, it raises the possibility that the scale is particularly sensitive to program effects and that any results based on this scale would not be replicated in measures of closely related constructs (e.g., universal diverse orientation; Miville et al., 1997). Future research is needed that examines the effectiveness of the *Anytown* program using additional measures that are more widely used in the relevant literature.

Conclusions

Despite its limitations, the current study adds to a growing body of literature documenting the effectiveness of the *Anytown* program. Although further research is needed that can improve upon the methodological limitations of this study, current findings suggest that the *Anytown* program has immediate effects on a variety of important variables and identify changes in identity as potential mediators of the program's effects on diversity acceptance. As

communities struggle to overcome the insidious effects of stereotyping, prejudice, and discrimination, the results of this study suggest that the *Anytown* program is a viable solution for their needs.

APPENDICES

APPENDIX A

YOUTH DIVERSITY ACCEPTANCE SCALE-REVISED

1. I have contact with people (outside of my family) who speak more than one language.
2. I spend time with people from different ethnic backgrounds.
3. During my free time I join in activities that allow me to meet new people.
4. I have friends who are gay, lesbian, or bisexual.
5. I eat lunch with people from different races and cultures than mine.
6. I have friends whose backgrounds (ability, race, culture, sexual orientation, etc) are different from mine.
7. I make a special effort to make new students from backgrounds different than mine, feel welcome.

APPENDIX B

ERIKSON PSYCHOSOCIAL STAGE INVENTORY IDENTITY SUBSCALE

1. I change my opinion of myself a lot. (Confusion)
2. I've got a clear idea of what I want to be. (Synthesis)
3. I feel mixed up. (Confusion)
4. The important things in life are clear to me. (Synthesis)
5. I've got it together. (Synthesis)
6. I know what kind of person I am. (Synthesis)
7. I can't decide what I want to do with my life. (Confusion)
8. I have a strong sense of what it means to be male/female. (Synthesis)
9. I like myself and am proud of what I stand for. (Synthesis)
10. I don't really know what I'm on about. (Confusion)
11. I find I have to keep up a front when I'm with people. (Confusion)
12. I don't really feel involved. (Confusion)

APPENDIX C

PREJUDICIAL BIASES AWARENESS, DEFUSION, AND ACTION QUESTIONNAIRE

1. I feel that I am aware of stereotypes and prejudices that I have.
2. My biases and prejudices affect how I interact with people from backgrounds different from mine.
3. I feel that my prejudicial thoughts are a significant barrier to my being understanding toward others.
4. It is OK to have prejudicial thoughts or stereotypes.
5. It is OK to have friends that I have prejudicial thoughts about from time to time.
6. I try not to think negative thoughts about people with backgrounds different than mine.
7. When I evaluate someone negatively, I can recognize that it's just a reaction, not an objective face.
8. I believe that I am able to transcend stereotypes, prejudice, and discrimination with my actions.
9. I plan to seek out experiences that expose me to people with backgrounds that are different from mine.
10. I am likely to join organizations or participate in events that are focused on diversity and inclusiveness.
11. I would attend a social event where I was the only person with my background.

APPENDIX D

INTERGROUP CONTACT AND CLOSENESS

1. How many friends do you have whose gender is different than yours?
2. How close do you feel?
3. How many friends do you have who have a religion different from yours?
4. How close do you feel?
5. How many friends do you have who are differently abled?
6. How close do you feel?
7. How many friends do you have who have an ethnic background different from yours?
8. How close do you feel?
9. How many friends do you have whose sexual orientation is different from yours?
10. How close do you feel?

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