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Parenting in 2 Worlds: Effects of a Culturally Adapted Intervention for Urban American Indians on Parenting Skills and Family Functioning

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Abstract Parenting in 2 Worlds (P2W) is a culturally grounded parenting intervention that addresses the distinctive social and cultural worlds of urban American Indian (AI) families. P2W was culturally adapted through community-based participatory research in three urban AI communities with diverse tribal backgrounds. This paper reports the immediate outcomes of P2W in a randomized controlled trial, utilizing data from 575 parents of AI children (ages 10–17). Parents were assigned to P2W or to the comparison group, an informational family health curriculum, Healthy Families in 2 Worlds (HF2W). Both the P2W and HF2W curricula consisted of 10 workshops delivered weekly by AI community facilitators. Pretests were administered at the first workshop and a posttest at the last workshop. Tests of the efficacy of P2W versus HF2W on parenting skills and family functioning were analyzed with pairwise *t* tests, within intervention type, and by baseline adjusted path models using FIML estimation in Mplus. Intervention effect sizes were estimated with Cohen's *d*. Participants in P2W reported significant improvements in parental agency, parenting practices, supervision and family cohesion, and decreases in discipline problems and parent-child conflict. Compared to HF2W, P2W participants reported significantly larger increases in parental self-agency and positive parenting practices, and fewer child discipline problems. Most of these desired program effects for P2W approached medium size. Culturally adapted parenting interventions like P2W can effectively strengthen parenting practices and family functioning among urban AI families and help address their widespread need for targeted, culturally grounded programs.

Keywords Urban · American Indians · Parenting interventions · Parenting skills · Family functioning

American Indians (AI) residing in urban areas are a growing, diverse, and under-studied population. While there are 565 federally recognized tribes and over 300 Indian reservations in the USA, a growing majority (78 % in 2010) of AIs live off reservation lands, with 60 % living in a urban areas (Norris et al. 2012). Despite the steadily increasing urban AI population, little is known about how AI families function outside tribal Indian communities, how AI family dynamics are shaped by the urban environment, or how to address the challenges of raising AI children in urban areas. While traditional AI parenting styles include active support and guidance from the extended family, once AI families move to an urban setting, reliance on the extended family for parenting help in rearing children may lessen and take on new forms. Traditional family roles are likely to evolve as AI families contend with the social challenges of urban life and navigate within a multicultural urban environment.

Culturally grounded parenting and family interventions designed for AIs have shown improvements in family functioning by strengthening parenting skills, reducing adolescent risky behavior and increasing youth self-esteem and quality of life (Macvean et al. 2015). However, most of these interventions have targeted tribally specific, reservation-based

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populations and employed small samples. They do not focus on the distinctive demands confronting AI families in the urban environment. This article reports the results of a randomized controlled trial of a strengths-based, culturally grounded parenting curriculum designed specifically to address the cultural and social challenges of urban AI parents and their adolescent children. It focuses on key outcomes targeted by the intervention: positive changes in parenting skills, parent-child relationships, and overall family functioning.

The Role of Culture in Parenting Practices

A substantial body of research has established the relationship between parenting practices (e.g. connectedness, communication, involvement, and monitoring), family functioning, and adolescent development, specifically on parenting as a method of change in youth behavior. High levels of parental involvement and monitoring, open parent-child communication, and close supportive family relationships are key factors in reducing the risk of youth substance use, delinquent behavior, and unprotected sex (Kelly et al. 2002; Marsiglia et al. 2016; Mmari 2010; Profe and Wild 2015; Rai et al. 2003; Li et al. 2000; Tolan and Larsen 2014).

In the general population, certain effective parenting practices have been shown to promote positive adolescent development. Although AI communities are very diverse culturally, many AI families follow distinctive cultural ways of parenting that are not fully incorporated in parenting interventions. The concept and role of the AI family may extend past the nuclear family to include relations by tribe, clan, and formal or informal adoption. Families can include multiple generations living in multiple households (Seideman et al. 1996), with the extended family playing an essential role in socializing, rearing, monitoring, and disciplining children (Swaim et al. 1993).

While the primary socializing agent for children in mainstream society is the nuclear family, in some AI families the extended family assumes responsibilities for instructing children in values and beliefs and protecting against risky behavior (Machamer and Gruber 1998). The parents' role is primarily to give encouragement, affection, and economic support to their children, while aunts and uncles provide the discipline, supervision, and monitoring (Garrett and Garrett 1994; Machamer and Gruber 1998). This network of family members gives AI children more widespread contact and exposure to adult influences, and enhances their awareness and sensitivity to the values and beliefs of the family and tribe (Swaim et al. 1993). The extended communal family also influences family functioning (Seideman et al. 1996), holding the family accountable to cultural beliefs and values, creating group solidarity (Redhorse et al. 1978), and adhering to history and ancestry (Machamer and Gruber 1998). Through their extended support system, AI youth are able to turn to adults other than parents for advice and support (LaFromboise and Dizon 2003), providing a large support system willing to assume the role of caretaker. The distinctive family and kinship structures in many AI communities result in parental practices that differ from those of mainstream families. Many AI family members, tribally and biologically related, may participate in the parenting and caregiving process to produce healthy families (Seideman et al. 1996; Swaim et al. 1993).

Traditional AI parenting approaches based on indirect and noninterfering styles also differ from those of the mainstream (Everett et al. 1983; Garrett 1996). Rather than direct confrontation, questioning, or lecturing of children, AI parenting styles are based on nonverbal communication, patience, observation, encouragement, role playing, modeling, and storytelling (Everett et al. 1983; Garrett 1996; Garrett and Garrett 1994). These parenting approaches encourage AI children to learn about their world experientially and by facing the consequences, both good and bad, of their own decisions (Davis et al. 2014). This experiential learning is viewed as fostering self-determinism but must always be balanced with community and family responsibility and interdependence (Davis et al. 2014).

Urban AI Parenting Experiences

Urban AI families, however, operate daily within urban social settings where AI cultural traditions may not be practiced regularly and social interactions with non-native individuals and institutions are pervasive. In the urban environment AIs can feel torn between maintaining their cultural values and adopting mainstream behaviors associated with success (Garrett 1996). Navigating these contrasting value systems presents challenges to positive family functioning, parenting skills, and parent-child relationships (LaFromboise et al. 2010). Urban AI families may lose regular contact and support from their extended family (Machamer and Gruber 1998). This loss has been implicated in the vulnerability of AI youth to engage in risky behavior through inadequate family support or caring, poor child rearing practices, and lack of parental monitoring (Chewning et al. 2001; Herring 1997; Moran and Reaman 2002).

Changes in family structure and functioning occur in conjunction with less accessible urban AI social support networks. Once in the city, families may become isolated, both geographically and culturally (LaFromboise et al. 1990). Without a community sharing similar tenets, ideologies, and histories, families may acculturate and embrace the mainstream cultural values and parenting styles (Garrett 1996). If urban AIs can maintain social networks, it may not be with individuals tied to a specific tribe or culture, but rather with multi-tribal and multicultural AI families. Integration into urban AI networks may connect families to more secular, inter-tribal traditions and ways of life (Kunitz and Levy 1994; Paper 2007), potentially diminishing culturally or tribally based parenting.

It is important to acknowledge that moving away from reservation homelands to urban areas does not always weaken family functioning, parenting skills, the parent-child relationship, or cultural connections (Weaver and White 1997). Urban AI families can live *in two worlds*, and successfully operate both in the urban mainstream world and the AI world. Resilience in this navigation process can result in maintaining positive AI family and parenting practices while adopting those mainstream practices that can enhance parenting in the urban setting (LaFromboise et al. 1993; Walters 1999). Maintaining close ties with reservations and extended family while creating new support systems in the urban areas enables urban AI families to be successfully bicultural (Lobo 2009; Walters 1999).

Parenting in 2 Worlds

In response to the distinct cultural ways in which AIs parent their children and to the challenges AIs face living in the urban environment, Parenting in 2 Worlds (P2W), a culturally adapted prevention intervention, was designed to strengthen parenting skills with a focus on family functioning and parent–child communication. The P2W curriculum draws on the efficacious Familias: Preparando la Nueva Generación (FPNG) Latino parenting curriculum (Marsiglia et al. 2016), while incorporating the voice of local AI urban communities through community-based participatory research (CBPR) (Israel et al. 2006).

P2W is guided by Ecodevelopmental Theory, which posits that strengthening family functioning and bolstering positive parenting practices are effective means of preventing adolescent substance use, risky sexual behavior and other problem behaviors (Szapocznik and Coatsworth 1999). The overall goals of the P2W curriculum are to: (a) empower parents to assist their youth to resist substance use and risky sexual behavior; (b) build and strengthen family functioning that can lead to prosocial youth behavior; and (c) increase the family's problem solving and communication skills in ways that resonate culturally with AI families. Given that this is an AI-specific, AI-driven, and AI-based curriculum, P2W focuses on familial and parent-child influences that characterize urban AI youth and families, especially as they experience the challenges and stressors of living in cities away from tribal lands.

In partnership with a non-profit urban Indian[1] center with sites throughout the state, a two- phase CBPR process guided the cultural adaptation of the P2W curriculum (Castro et al. 2004; see Kulis et al. 2015, for details of the adaptation process). In the first phase of adaptation, a minimally modified version of FPNG (i.e., changing Latino-oriented language) was delivered to urban AI parents, and quantitative and qualitative data regarding the cultural fit of each curriculum lesson's content, activities, and learning approach were gathered from participating parents, workshop facilitators, workshop observers from the research team, as well as four external and two internal curriculum experts (five of them tribally enrolled AIs) representing four universities. These expert informants included curriculum developers of other prevention programs for AI populations, and experts on parenting interventions. The curriculum adaptations were decided upon through an iterative and consensual process by urban AI professionals and FPNG curriculum developers on the research team. They drew on feedback from the various sources to identify linguistic and cultural changes needed to make the curriculum more appropriate for urban AI families (Castro et al. 2004). A pilot version of P2W was developed making recommended surface- and deep-structure adaptations (Resnicow et al. 2000). In the second adaptation phase, the pilot version of *P2W* was delivered to 75 AI participants at three sites in different Arizona cities. The pilot test demonstrated that there were statistically significant improvements in parenting outcomes from pretests to post-tests, using the same measures examined in the current study (Kulis et al. 2015).

The data for the cultural adaptation processes included over 1100 documents: curriculum lesson feedback forms completed by participants, observers, and curriculum experts; and transcripts from two types of focus groups conducted after workshops were completed at each site—one with participants, and another with facilitators and observers. The adaptation data reflected input from informants with a wide array of tribal backgrounds, helping to ensure the cultural resonance of the curriculum for urban AIs from different tribes and with different family migration histories. AI and non-AI members of the research team analyzed the adaptation data using multiphase coding and comparison of emergent themes (Corbin and Strauss 2014). The objectives of the analyses were to identify and address linguistic, cognitive (e.g., learning style) and cultural difficulties for urban AI participants with the earlier versions of the curriculum, to uncover common approaches, teachings and cultural values relating to urban AI parenting, and systematically incorporate them in the P2W curriculum.

Many of the cultural adaptations in P2W involved the incorporation of AI cultural values and common inter-tribal cultural elements, distinctive AI worldviews on rearing children, and family challenges specific to the AI urban experience (Reeves et al. 2014; Kulis et al. 2015). Informants in the adaptation phases stressed the need to embed the intervention's core elements in a value system common to different AI heritages, emphasizing cultural strengths. Through discussion, decision-making, and role-playing activities across

[1] We use the terms urban Indian center and urban Indian community, rather than urban American Indian or urban American Indian/Alaska Native, as they are commonly used by community members and organizations serving them.

multiple workshop lessons, the adapted curriculum allows parents time to identify values and strengths of their culture, reflect on how those serve as protective resources in their families and communities, and how to pass cultural values on to their children and their children's children. For example, lessons addressed the concept of parenting for future generations by incorporating storytelling. Through short video clips that are a part of each lesson, urban AI parents, grandparents, and community leaders from different tribes share their parenting stories and strategies, with an emphasis on the importance of maintaining cultural traditions in parenting. After watching the videos, parents reflect on and share their own culturally based parenting practices in small group discussions.

Distinctive AI parenting approaches were recognized in adapted workshop lessons that were refocused away from *managing* their children's behavior, instead exploring culturally appropriate ways to *guide* children, such as through modeling behavior, and through discussions of how to find balance in parenting between traditional AI and mainstream approaches. Workshop activities also were designed to reflect AI traditions of shared parenting responsibility with extended family and community members, and how these can be accommodated in urban areas through enlarged support networks.

Workshop lessons were also restructured to reflect an AI preference for circular (whole-to-part-to-whole) rather than linear learning styles (Vogt et al. 1987). This learning style reflects AI cosmologies where understanding the whole is more important than the parts, and understanding the interrelationships among parts takes place only in relation to the whole. Thus, rather than presenting material as a set of elements or steps to be assembled into a whole, workshop lessons were adapted to introduce and approach topics holistically and experientially.

The final adapted P2W curriculum is a 10-week, 10-workshop, manualized curriculum with the following lesson topics. (1) Introduction to Parenting in 2 Worlds: Parents learn about the program and get to know each other. (2) Building Parenting Communities: Parents identify people and services in their social networks that can provide support to the family, and learn about the REAL drug resistance strategies—Refuse, Explain, Avoid, and Leave—that help AI youth stay safe from drugs and other risk behaviors. (3) Identifying Family Traditions, Norms, & Values: Parents explore their cultural background and assess how it aligns with their family values. Parents also learn about the ABCD Decision Making Wheel, a circular process that helps identify family issues and solutions (Ask yourself what is the problem; Brainstorm possible solutions and their consequences; Choose one of the solutions; Do!). (4) Knowing Your Child's World: Parents learn about adolescent development and how to address concerns in their adolescents' physical, emotional, social, and academic lives. (5) Communicating with Your Child: Parents develop effective, respectful, and constructive ways of communicating with their adolescent. (6) Receiving and Giving Support. Parents identify why and how a supportive, positive, and warm relationship can keep adolescents away from substance use, unsafe sex, and other problem behaviors. (7) Guiding Your Child's Behavior Effectively, part 1: Parents learn how norms and values are connected to establishing family rules and to guiding the adolescent's behavior. (8) Guiding Your Child's Behavior Effectively, part 2: Parents practice effective guidance and monitoring strategies through role plays. (9) Talking with Teens about Risky Behaviors. Parents prepare for sensitive conversations with their children about the consequences of substance use and risky sexual behavior. (10) Putting It All Together: Parents review key elements from prior workshops and describe strategies to help their adolescent children navigate this time of their lives.

Each workshop is designed to be two hours long and includes: welcome and a review of prior workshop; agenda and objectives; topics and activities related to parenting practices; making connections; and a wrap-up. P2W uses various facilitation strategies: informational discussions; individual and small group activities; videos; role-plays; games; scenarios; group presentations; activity sheets; and home projects and activities. A series of short video clips of urban AI parents and grandparents sharing their experiences of raising children was produced for each workshop so that participants could relate to stories of people much like them and reflect on their own parenting experiences. Some parents in the videos were former participants in the pilot version of P2W. These elements and strategies followed a learning theory framework focused on: (1) the learner's prior knowledge; (2) learning through social interaction; (3) situated learning; and (4) utilizing multiple learning strategies (Leinhardt 1992).

The involvement of local AI communities throughout the study in a CBPR partnership was crucial to the success of the development and implementation of the P2W curriculum. The idea for the study emerged from efforts already underway through a statewide coalition of urban Indian centers to address community-identified needs for parenting programs. The coalition approached the researchers to partner in selecting appropriate existing parenting curricula, and these discussions led them, jointly, to seek research funding to culturally adapt the curricula and test it, utilizing and expanding the capacity of the urban Indian centers to deliver these programs. Urban Indian center staff members helped build trust with local AI communities, identified a feasible and locally acceptable research design with randomization and a comparison group, and participated intensively in the process evaluation during curriculum development. They recruited participants, trained facilitators, managed day-to-day workshop implementation, collected participant survey data, and joined in reporting results to community and research

audiences. The knowledge and expertise of the urban Indian centers was essential in overcoming common challenges in prevention research with urban AIs, helping to: locate and recruit a geographically dispersed population; provide accessible and welcoming venues for delivering the program; maintain supportive communication with participants who often face emergencies and scheduling disruptions; and leverage institutional resources to sustain program implementation.

Healthy Families in 2 Worlds

All participants in the research study received a curriculum, either P2W or a comparison group curriculum called Healthy Families in 2 Worlds (HF2W). The latter provided family health information in 10 workshops on a set of topics that urban AI parents suggested in prior conversations with the research team: Vision and eye care, oral health, emergency response systems, CPR, first aid, media influences on children's health, and safe dating practices. Information on these topics was assembled with a mix of informational presentations, and discussions among participants. Participants brainstorm ideas about family health, its importance, how difficult it is to sustain, and community barriers for living healthy lives. Through presentations and discussions, they identify resources and practices they can put in place to promote a more healthy life style for their children and themselves.

Hypotheses

This study tested the hypothesis that compared to participants in the HF2W intervention, those receiving P2W would report relatively larger increases in effective parenting skills and family functioning, and larger decreases in parent-adolescent conflict and discipline problems.

Method

This study was designed as a randomized controlled trial of the culturally adapted P2W intervention, compared to an informational family health curriculum, HF2W. The relative effectiveness of these interventions was tested in urban AI communities in Arizona from 2012–2014 using CBPR approaches. The sample included 575 parents or guardians of AI youth living in one of the three Arizona cities with the largest urban AI populations. The sample was recruited through the auspices of the largest urban Indian center in Arizona and its coalition connections to other urban Indian centers in the state. The urban Indian center partnered with the research team to establish and manage consistent recruitment, implementation and data collection procedures across sites. The two interventions were implemented in 26 parallel workshop cycles (11 in Phoenix, 9 in Tucson, and 6 in Flagstaff) over 25 months of implementation. At each cycle, separate P2W workshops and HF2W workshops were delivered in the same locations and on the same timetables. Recruitment, enrollment, randomization and implementation processes were identical across cycles and cities. Figure 1 presents a detailed CONSORT diagram for the study.

Participants and Eligibility

Participants were eligible for the study if they met all of the following requirements: (1) Were a primary caregiver (parent or guardian) of an AI youth 10–17 years old; (2) Were responsible for day-to-day decisions (health, educational and social) for the youth; (3) Resided off the reservation with the youth attending an urban school; (4) Had not previously participated in the P2W pilot; and (5) Were not a spouse or partner of a study participant. Couples could attend together but they selected only one partner to serve as the study informant.

Recruitment and Enrollment

The non-profit urban Indian center recruited, screened, and enrolled eligible participants, operating from offices in the three cities and employing AI Project Site Specialists and AI Community Recruiters to enroll eligible participants. The recruiters were responsible for locating community members, building relationships, and encouraging participants to enroll in the study, following a non-coercive script. Recruiters located eligible participants from schools, churches, youth centers, health fairs, pow-wows, other community events, and through word of mouth. Each workshop cycle began with a minimum of 8 and maximum of 25 participants in each of the parallel P2W and HF2W interventions [Mean = 11]. Parents met once a week for 10 weeks at their local urban Indian center or at community facilities, usually in the early evening or weekend. Free childcare was provided. Trained urban AI facilitators from the local communities delivered both curricula. Parents could make-up any workshop they had missed at an alternately arranged time, which was often scheduled in small groups.

Randomization

Before each workshop cycle, newly enrolled potential participants at each site were individually randomized into P2W or HF2W by the Project Site Specialists. To ensure that there were approximately equal numbers of participants in each intervention for each cycle, they alphabetized the collected enrollment forms by last name, placed them in alternating fashion atop two sealed manila envelopes that had been sent

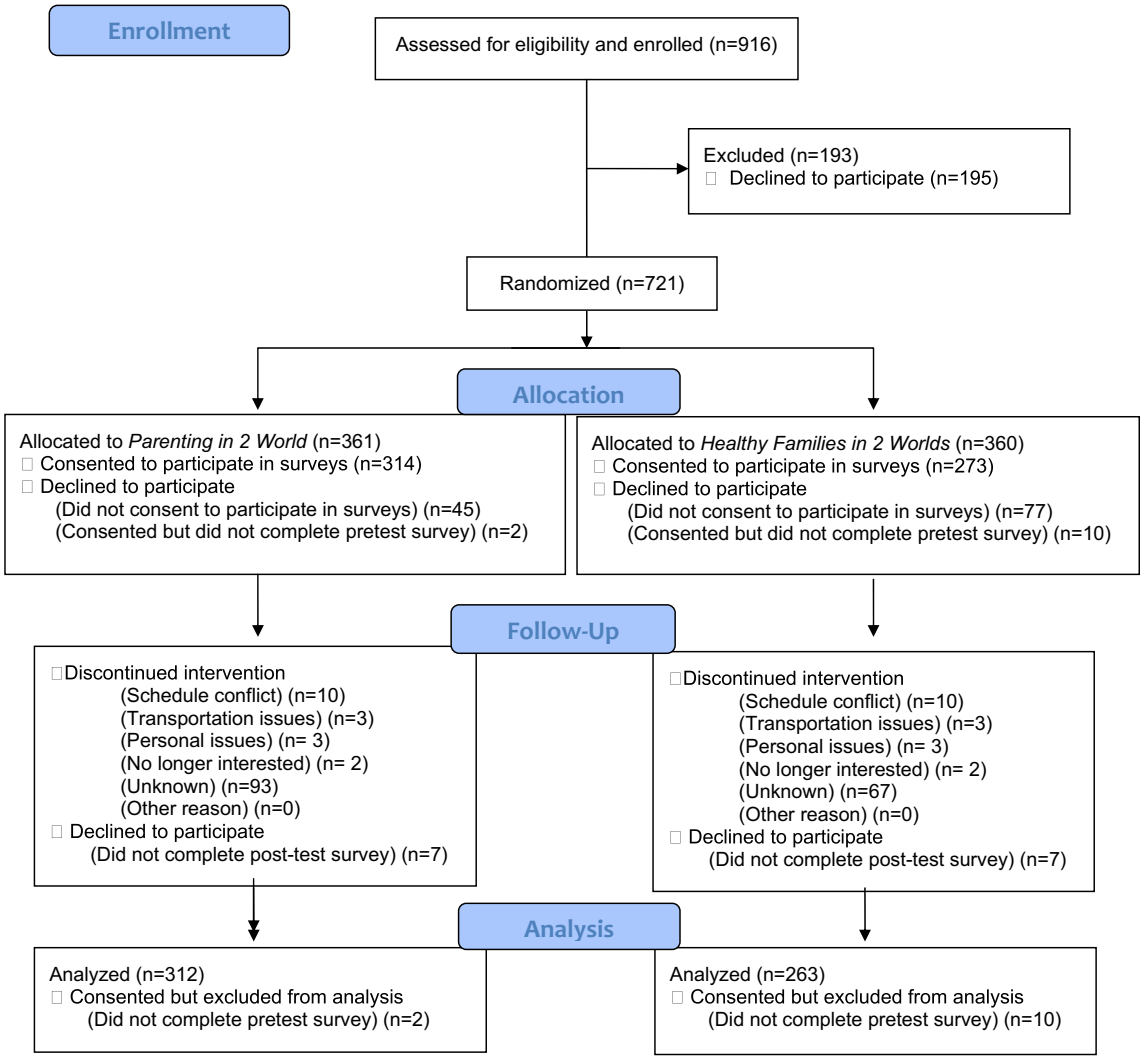

Fig. 1 CONSORT diagram for parenting in 2 worlds efficacy trial

to them by the research team, and then opened the envelopes to reveal the intervention condition (P2W or HF2W) of each participant. After the condition was determined, participants were contacted and informed of their intervention assignment and given the location, day, and time that their workshops would begin. If participants could not make it to that day or time, they were informed of the dates for later cycles, keeping the participant randomized into the same intervention condition.

Survey Administration and Attrition

Pretest surveys were administered during Workshop 1, and post-test surveys occurred at Workshop 10. Trained AI community facilitators carried out the half-hour self-administered, paper and pencil questionnaire. The facilitator followed a survey script containing detailed instructions which reviewed procedures to maintain the confidentiality of the participants' survey answers, and then guided them through key questions in a systematic manner. Facilitators assisted participants with any questions or problems they had regarding the questionnaires using a pre-established protocol. Participants who missed Workshop 1 could make-up the pretest through Workshop 3. Of those attending, 87 % provided informed consent to complete surveys (see "Ethical Compliance" section below). Participants received a $15 attendance incentive at the end of each workshop whether or not they consented to provide survey data.

There was a gradual decline in workshop attendance: 85 % of consented participants completed the 3rd workshop, 71 % completed the 7th, and 66 % completed the 10th (mean = 7.6 workshops attended). The post-test was completed by 63 % of consented participants, with virtually no difference in attrition between the interventions (see Fig. 1). There were no significant differences at $p < 0.05$ in number of workshops completed or in attrition to post-test by gender, age, number of children, education, and length of urban and reservation residence.

Outcome Measures

This analysis examines six widely used measures of parenting skills and family functioning that were primary targets of the intervention; the acceptable psychometric properties of these measures were verified in the study's pilot phase (Kulis et al. 2015). Each outcome was constructed as a mean scale from Likert-type responses to multiple items (reversing the valence as needed), with good to excellent reliability. The complete wording of the component items comprising each scale, source citations, and reported reliability information is provided in Appendix A (available online). To ensure that they reported on their relationships with the same *focal* preadolescent or adolescent child in pretests and post-tests, and not younger or older children, respondents were instructed to answer these questions thinking about the one child between the ages of 10 and 17 who is closest to age 14.

Three outcomes assessed parenting skills. The Parental Self-Agency scale measures confidence in one's ability to parent successfully, solve child rearing challenges, and effectively guide or manage one's child (Dumka et al. 1996). The 10 component questions have response options from *Never* = 1 to *Always* = 5 (Cronbach $\alpha = 0.803$ in the current sample). The Positive Parenting Practices scale asks how often the parent provides the child with encouragement (praise, hug, smile) and rewards (present, privilege, special activity) for good behavior (Tolan et al. 2000). The six items have responses from *Never* = 1 to *Always* = 5 ($\alpha = 0.866$). Parental Supervision is a seven-item subscale from a larger bank of parenting practices measures (Doyle and McCarty 2001; Loeber et al. 1998). The subscale assesses direct supervision (weekday and weekend curfews) and knowledge of the child's activities, friends, and whereabouts. Responses are coded from *Almost Never* = 1 to *Almost Always* = 5 ($\alpha = 0.824$).

Family Cohesion was an overall measure of family functioning from The Family Adaptability and Cohesion Evaluation Scale (FACES-II) (Olson et al. 1985). The ten positive and six negative valence items gauge supportiveness, closeness, togetherness and cooperation among family members, and the extent to which they share problems, free time, interests, activities, and knowledge of each other's friends. The items have responses from *Almost never* = 1 to *Almost always* = 5 ($\alpha = 0.893$).

The two remaining outcomes assessed problems in the parent-child relationship more specifically. The Discipline Problems scale is part of a larger Self-Efficacy for Parenting Tasks Index (Coleman and Karraker 2000), measuring the parents' difficulty in deciding and establishing effective rules and discipline for their child and eliciting the child's cooperation. The five items have responses from *Strongly Disagree* = 1 to *Strongly Agree* = 6 ($\alpha = 0.840$). Parent-Adolescent Conflict was measured with 17 items from the Conflict Behavior Questionnaire (Robin and Foster 2003), assessing positive and negative interactions in the parent-adolescent relationship. The positive items gauge the frequency that the child is easy to get along with, responsive, communicative, and well behaved, and the negative items gauge the frequency that the child's relationship with the parent is marked by disagreements, arguments, frustrating talks, lack of understanding, uncooperativeness, anger, defensiveness, and impatience. Responses to the items range from *Never* = 1 to *Always* = 4 ($\alpha = 0.908$).

Analysis Strategy

Analyses were conducted in Mplus 7.0 (Muthén and Muthén 2012). Saturated path models tested for differences between the two interventions using dummy variable contrasts of P2W versus HF2W, controlling for the outcome measured at the baseline pretest and for intervention dosage (number of workshops attended). All analyses utilized full-information maximum likelihood (FIML; Graham 2009) to conduct intent-to-treat analyses that account and adjust for attrition to the post-test and any item missing data. In addition to the variables in the tested models that aid in predicting the outcome at post-test, such as the corresponding pretest value and intervention dosage, we used the Mplus *Auxiliary* command to incorporate into the FIML process other pretest variables that predicted attrition, e.g., demographics (e.g., family members residing on reservations, religious denomination), AI cultural involvement measures (ethnic identity), and child prosocial and risk behaviors. The analyses adjusted for stratification by the three geographic sites and for random effects at the facilitator level, and employed a robust maximum likelihood estimator to adjust for any non-normality in the distributions of outcomes. Follow-up analyses explored the nature, direction, and magnitude of changes in outcomes from pretest to post-test, including pairwise *t* tests of mean changes within intervention type (P2W or HF2W), and Cohen's *d* estimates of relative intervention effect sizes (P2W versus HF2W) using the Mplus model constrain command.

Results

Characteristics of the participants, self-reported in the pretest, are summarized in Table 1. More participants were recruited from the large metropolitan areas of Phoenix and Tucson than from the much smaller city of Flagstaff. Over three-fourths of the participants were female. The respondents' marital status and educational attainment varied considerably, but income was generally quite low, with half the sample reporting annual household incomes under $10,000. Most respondents reported close contact and family connections, current and past, to AI reservation communities. A large plurality had lived on a reservation at some time, on average for 13 years; more than half had spent their childhood on a reservation; and 92 % had relatives currently living on a reservation. Average length of

Table 1 Sample descriptive statistics

	%	*N*	*M*	SD
Urban Community				
Flagstaff	21.9	575		
Phoenix	36.9			
Tucson	41.2			
Gender				
Male	23.1	575		
Female	76.9			
Marital status				
Married and living with spouse	13.5	565		
Married but not living with spouse	6.9			
Not married but living partner	28.7			
Widowed, divorced or separated	15.4			
Single, never married	35.6			
Education				
Less than a high school degree	25.5	564		
High school diploma or GED	29.8			
Technical/trade school	13.8			
Community college	17.7			
4 year college	13.1			
Annual household income				
Less than $10,000	50.5	553		
$10,000–$29,999	30.7			
$30,000 or more	18.8			
Relatives currently living on a reservation				
Parent, grandparent, or sibling	67.6	565		
Other relative	24.6			
No relatives on reservation	7.8			
Ever lived on a reservation (Yes)	73.7	555		
Lived on reservation most of childhood (yes)	54.0	556		
Years lived on a reservation		555	13.4	11.7
Years lived in urban area		560	16.7	13.0
Age		572	36.7	9.1
Number of respondent's children < 19 living at home		575	2.2	1.5
Total household members		555	4.6	2.1

N is number of cases reporting valid responses at pretest for this variable

urban residence was over 16 years. Nearly all participants (96 %) were affiliated with an American Indian tribal community, predominantly with one or more Arizona tribes (90 %) (data not presented in tables). The affiliations encompassed 16 of the 22 federally recognized tribes in Arizona and 21 tribes outside the state. Participants ranged widely in age, from 18 to 71 years old ($M = 37$), but most were age typical for parents of early adolescents: 23 % were under 30, 62 % between 30 and 45, and 16 % over 45. They lived in households averaging 4.6 people, about two of whom were their own dependent children. In separate tests (not reported in tables), there were no statistically significant differences between the P2W and HF2W intervention groups on any of these demographic characteristics. Further tests to assess group equivalence showed no significant differences between the P2W and HF2W groups on pretest outcome measures.

Table 2 reports direct tests of the relative effectiveness of the two interventions from baseline adjusted linear models, controlling for number of workshops attended by individual participants. The direction of the intervention effect—changes in P2W compared to HF2W—indicated relatively more desirable outcomes in *P2W* on all measures, and these differences were statistically significant for parental agency, parenting practices and discipline problems. The three significant effects were similar in magnitude. Workshop dosage was a significant predictor of two of the outcomes. Parents attending more workshops

Table 2 Intervention effects on parenting and family functioning outcomes at post-test, controlling workshop attendance

	Parenting skills			Family functioning	Parent-child relationship problems	
	Parental agency Est./(SE)	Parenting practices Est./(SE)	Supervision Est./(SE)	Family cohesion Est./(SE)	Discipline problems Est./(SE)	P-C conflict Est./(SE)
Intercept	3.323***	3.256***	4.878***	0.938***	1.724***	2.283***
	(0.410)	(0.399)	(0.726)	(0.268)	(0.341)	(0.344)
Outcome at pretest	0.618***	0.558***	0.563***	0.680***	0.552***	0.619***
	(0.038)	(0.045)	(0.087)	(0.028)	(0.032)	(0.047)
Attendance	0.091	0.104	−0.210***	−0.070	−0.082	−0.224*
	(0.103)	(0.083)	(0.059)	(0.091)	(0.124)	(0.099)
Intervention: P2W vs HF2W	0.090*	0.097*	0.019	0.052	−0.096*	−0.047
	(0.046)	(0.042)	(0.040)	(0.051)	(0.041)	(0.073)
N	561	562	561	516	561	559
R square	0.385	0.321	0.371	0.469	0.310	0.427
Cohen's *d*	0.262	0.243	0.062	0.126	0.276	0.203

Note: Standardized estimates from saturated path models (i.e., where the number of parameters estimated equals the number of possible degrees of freedom, resulting in a model with a perfect fit and zero remaining degrees of freedom) in Mplus using robust maximum likelihood estimators, full-information maximum likelihood estimation of missing data, and adjustments for stratification by site and facilitator level random effects. *N* is the number of participants reporting non-missing values on the outcome at pretest. Cohen's *d* are the estimated relative intervention effect sizes (P2W versus HF2W)

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

reported less parent-child conflict and less parental supervision, but intervention dosage was unrelated to the other outcomes. Using the Benjamini and Hochberg (1995) procedure for controlling family-wise error in multiple tests, the chance of a false positive among the intervention effects is 0.05 or less. Table 2 also presents the estimated effect sizes of the intervention effects, showing that the relative effectiveness of P2W versus HF2W in producing the desired changes approached a medium effect size (Cohen's $d > 0.2$) for the three outcomes where there were significant intervention effects.

In a follow-up analysis to determine the nature and direction of changes in outcomes in the two interventions, we conducted paired *t* tests within intervention groups for all outcomes (see Appendix B, available online). Results showed that P2W participants reported significant changes in desired directions on all outcomes: improved scores on parental agency, parenting practices, supervision, and family cohesion, and decreases in discipline problems and parent-child conflict. With the exception of family cohesion, changes in HF2W were also in the desired direction but reached statistically significant levels only for three outcomes: parental agency, supervision, and parent-child conflict.

Discussion

This study tested the efficacy of the P2W intervention as a means of strengthening parenting skills and family functioning for urban AI families. P2W was designed to be a culturally grounded parenting intervention specifically for parents and guardians raising AI adolescents in cities. It was created through a CBPR multi-phase cultural adaptation process, retaining core components of an existing efficacious parenting program but with modifications that addressed cultural and social challenges facing urban AI families. P2W systematically incorporated AI values and worldviews for rearing healthy children and building strong families.

P2W participants reported statistically significant improvements in their sense of parental agency, use of positive parenting practices, supervision of the child, and degree of family cohesion, as well as reductions in discipline problems and conflict with the child. A comparison group receiving an informational family health curriculum also reported better outcomes over time on all of these measures except family cohesion, but their improvements were statistically significant for only half of the measures. Moreover, when both groups showed better outcomes over time, the improvements for the P2W group were larger. Statistical tests demonstrated that P2W was relatively more effective than the comparison intervention in improving parental agency, positive parenting practices, discipline problems, and parent-child conflict, with the differences approaching medium effect size.

The measures where P2W produced relatively better outcomes than the comparison group were all assessments of parenting skills and the parent's relationship with the adolescent, matters that were directly targeted in the P2W curriculum. One outcome where differences between P2W and the comparison group were non-significant—family cohesion—consisted of

items that referred generally to relationships among all family members, not the parent-child relationship specifically. Although the communication and conflict resolution skills that were practiced in the P2W curriculum apply to all family interactions, relationships with family members other than the adolescent were not P2W's focus. The remaining non-significant difference between P2W and the comparison group was a widely used measure of parental supervision that focuses on curfews and knowledge of the child's activities, associates and whereabouts. In the curriculum development and pilot phases of P2W, one of the more consistent types of feedback received from multiple sources—participants, facilitators, and AI curriculum experts—was that very direct monitoring and management of the child's behavior did not align well with the more indirect and noninterfering parenting styles found in many AI cultures. Accordingly, the P2W curriculum lessons that dealt with supervision emphasized how to effectively *guide* rather than *manage* or control the child. These more nuanced strategies for providing guidance may not have been fully captured through the supervision measure. However, despite the lack of significant differences between the intervention on family cohesion and supervision, in both instances the P2W group showed statistically significant within-group improvements over time.

The cultural adaptation protocols that created P2W involved the participants in identifying cultural values from their heritage that were the foundation for raising healthy children and increasing family resilience and wellbeing. From these strengths-based starting points of cultural engagement, participants learned, explored and shared effective parenting and communication strategies that could be transferred from their traditional communities and, if necessary, reinterpreted or modified to fit the challenges of rearing AI adolescents in urban settings. The P2W curriculum is not tribally specific, by design; it was developed with extensive input from three urban Indian communities, each with different and diverse mixes of tribal heritages and migration histories. Participants in this randomized controlled trial came from over 40 different tribal backgrounds. Nevertheless, more geographically expansive trials are needed before the results can be generalized reliably to urban Indian communities in other regions. Other study limitations are the unknown extent to which the provision of monetary incentives influenced participation, and how P2W training on effective parenting skills may have led to social desirability bias at post-test. Incentive amounts were vetted through the human subjects review process as adequately acknowledging the parents' investment of time without reaching a level that would compel their participation. It is possible, however, that the incentives influenced perceptions of the value and importance of the workshop lessons.

The promising evidence of the efficacy of P2W in improving parenting skills and parent-child relationships suggests it can help address the widespread need for evidence-based and culturally grounded parenting interventions for urban AI families. The positive effects of P2W, however, were made possible by the involvement of community members in all aspects of the research—developing the curriculum, training urban AI facilitators, creating procedures and policies for recruitment and retention, delivering the interventions, and disseminating findings—and because of their ability to mobilize and expand the capacity of community-based organizations serving urban AIs to deliver and test interventions of this type. By involving urban AI parents and community-based organizations in the creation and implementation of this prevention curriculum, P2W capitalizes on parents' readiness and willingness to strengthen family functioning and parenting practices. These findings also highlight the need for prevention interventions that are both culturally specific and family-centered in order to strengthen and build upon the protective factors of AI families living in an urban environment.

Compliance with Ethical Standards

Funding The study was funded by the National Institutes of Health (award R01MD006110).

Conflict of interest The authors have no conflicts of interest to disclose.

Ethical approval All study procedures involving human participants were in accordance with the ethical standards of the researchers' university Institutional Review Board and with the 1964 Helsinki declaration and its later amendments of comparable ethical standards.

Informed consent Participants gave active informed consent through non-coercive procedures. They were informed that the questionnaire was part of a university research project, completing it was voluntary, and their answers were confidential. They could return a signed consent form and complete the questionnaire, or return an unsigned consent and blank questionnaire. Those who did not consent were eligible and encouraged to attend all workshops.

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