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Gender Differences in Drug Offers of Rural Hawaiian Youths: A Mixed-Methods Analysis

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Abstract

This study examined the gender differences in drug-offer situations of Native Hawaiian youths in rural communities. Youths from seven middle or intermediate schools (*N* 194) on the Big Island of Hawai'i completed a survey that focused on the drug offers they had received. Multivariate and bivariate analyses indicated that the girls received significantly more drug offers than did the boys in the sample and found it more difficult to refuse drugs in such situations. Qualitative data gathered from communities in the survey's sampling frame elucidated the quantitative findings. Limitations of the study and implications for prevention practice are discussed.

Keywords

ethnic issues; family relationships; gender; peers and friends; substance use

Research has indicated that drug and alcohol use is a significant problem for Native Hawaiian youths. Compared with their non-Hawaiian counterparts, Native Hawaiian youths have higher rates of use of gateway drugs and report the highest need for drug and alcohol treatment (Lai & Saka, 2005; Wong, Klingle, & Price, 2004). Rates of drug use are particularly high in rural communities in Hawai'i and, unfortunately, these areas have the fewest available options for intervention or treatment (Rehuher, Hiramatsu, & Helm, 2008). Although more is known about the epidemiology of drug and alcohol use by Hawaiian youths, little is known about the etiology of drug use for these youths, including the gender differences in drug offers or use.

The study presented here examined the gender-specific patterns of drug offers among Native Hawaiian youths residing in rural communities. Drug offers were measured with a recently

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developed survey called the Hawaiian Youth Drug Offers Survey (HYDOS; Okamoto, Helm, Giroux, Edwards, & Kulis, 2010), which examined the ecological and cultural context of drug offers for Hawaiian youths in rural communities. Specifically, the study investigated the frequency of exposure to drug offers from peers and family members and the perceived difficulty in refusing drugs from these individuals. Data from focus groups that were used to develop the survey items was reanalyzed to elucidate the quantitative findings. Finally, the study explored how the findings contribute to the understanding of gender- and culture-specific correlates to drug offers for rural Hawaiian youths and the implications of these findings for prevention and intervention practices with these youths.

Review of the Literature

Gender Differences in Drug Use of Indigenous Youths

The findings of research on the gender differences in drug use among indigenous youths (e.g., American Indians, Alaskan Natives, and Native Hawaiians) have been mixed. For example, Hawkins, Cummins, and Marlatt (2004) reviewed studies on Native youths and drug use and found no significant differences in the rates of use by gender. However, other studies have suggested that indigenous girls may be at an increased risk of drug and alcohol use and abuse. Compared with their male counterparts, significantly higher rates of tobacco use have been reported for American Indian (Wallace et al., 2003), Alaskan Native (Angstman et al., 2007), and Native Hawaiian (Glanz, Maskarinec, & Carlin, 2005; Glanz, Mau, Steffen, Maskarinec, & Arriola, 2007) girls. In terms of other gateway drugs, Wallace et al. found significantly higher rates of lifetime marijuana use for American Indian girls than for American Indian boys in the 12th grade. They also found that the girls' daily and 30-day marijuana use increased more steeply from the 8th to the 12th grade than did the boys'. In a multiethnic sample from Hawai'i, Mayeda, Hishinuma, Nishimura, Garcia-Santiago, and Mark (2006) found that Native Hawaiian girls had significantly higher rates of alcohol and marijuana use than did Native Hawaiian boys. Although there is a developing body of literature that indicates that indigenous girls may be at a higher risk of substance abuse, little is known about the causes of this gender disparity or specific ways to address this issue through prevention or treatment.

Gender, Ethnicity, and Drug Offers

It is important to note that there is a lack of research on gender differences in the initiation of youths into drug use (Kumpfer, Smith, & Summerhays, 2008), including research on the intersections of gender and race in the etiology of drug use. However, some related research has examined the gender differences in drug offers to minority youths (Kulis, Okamoto, Dixon Rayle, & Sen, 2006; Moon, Hecht, Jackson, & Spellers, 1999). Moon et al. examined gender differences in drug offers to Hispanic and African American youths and found that girls tended to be at a higher risk for drug offers by female acquaintances and family members (e.g., cousins and sisters) and boyfriends. Similar findings have been noted for indigenous girls. Dixon Rayle et al. (2006) found that American Indian girls received significantly more offers from cousins and friends than did American Indian boys. The girls in their sample also found it significantly more difficult to refuse drugs from all sources. Alexander, Allen, Crawford, and McCormick (1999) corroborated these findings using qualitative methods. They reported that older family members (particularly cousins, uncles, and grandparents) functioned as initiators of cigarette smoking for American Indian girls. Flanagan, Elek-Fisk, and Gallay (2004) found that girls tended to be proactive and “involved” in resolving conflicts in drug-related problem situations, which further compounded girls' difficulty in refusing drugs. Overall, this research suggests that for populations of indigenous youths, particularly indigenous girls, drug use functions within a relational context. However, relatively few studies have examined gender differences in

drug offers to populations of Native youths, and no studies have explored this phenomenon with Native Hawaiian youths.

The Ecodevelopmental Perspective

Similar to other studies on offers of drugs to populations of indigenous youths (Dixon Rayle et al., 2006; Kulis, Reeves, Dustman, & O'Neill, in press), this study used ecodevelopmental theory as a framework for understanding how drug offers may influence drug use among rural Native Hawaiian youths. Similar to social ecological theory (Bronfenbrenner, 1989), ecodevelopmental theory describes how multiple interacting social contexts influence the development and behavior of youths (Coatsworth et al., 2002; Perrino, Gonzalez-Soldevilla, Pantin, & Szapocznik, 2000). In our study, the drug use of Native Hawaiian youths can be understood as the result of drug offers occurring within nested systems. Microsystems are structures in which a youth participates, such as the family, school, and peer groups. Ecodevelopmental theory focuses particularly on the role of the family system in the socialization of youths and the development or prevention of problem behaviors (Coatsworth et al., 2002). Thus, the theory is consistent with the family-oriented value system (the '*ohana* system) that is indicative of the Native Hawaiian culture (Miike, 1996). Mesosystems reflect the relationships between microsystems (e.g., parent-peer or parent-school interactions) that exert indirect influences on youths, and macrosystems reflect broader social forces and structures that influence youths. Ecodevelopmental theory emphasizes culture as a macrosystem influence on family functioning and the behavior of youths (Perrino et al., 2000). According to the theory, positive and supportive interactions within and between these systems can facilitate positive social outcomes, whereas conflict among them can lead to behavioral problems, such as drug use (Coatsworth et al., 2002).

Culture- and Gender-Specific Applications of Ecodevelopmental Theory

Consistent with ecodevelopmental theory, some research has indicated that the use of and resistance to drugs by Native Hawaiian youths exist within the interdependent relationships of peers and family members in school and community settings and that these relationships may differ on the basis of gender. In terms of family, Goebert et al. (2000) found that Native Hawaiian adolescents interacted with significantly more family members, including a greater number of extended family members, than did their non-Hawaiian counterparts. They also found that family support decreased the risk of drug use at least twofold. In terms of gender, while interpersonal relationships have been found to be influential in both boys' and girls' decisions to use substances, Kumpfer et al. (2008) found that familial relationships exert a stronger influence on girls' decisions to use drugs, whereas peer relationships exert a stronger influence on boys' decisions. Research on the use of drugs by indigenous youth populations has also corroborated these findings. Kulis et al. (2006) reported that the degree of exposure to drugs from parents predicted a higher frequency of the recent use of gateway drugs for indigenous girls than for boys. For Hawaiian girls in rural communities, these familial influences are particularly salient, because their community structure is centered on interconnected networks of immediate and extended family members that function either to intensify the risk or to protect against the risk of drug use in these communities (Okamoto, Helm, Po'a-Kekuawela, Chin, & Nebre, 2009). Although some research has examined gender differences in the influence of interpersonal relationships on drug offers for indigenous youth populations, none has explored these differences in relation to Native Hawaiian youths. The study presented here examined these gender differences using both qualitative and quantitative methods.

Method

Research Design

The study used an embedded mixed-methods design, in which quantitative methods were used primarily to answer the research question and qualitative methods were embedded within the quantitative design to explain the results (Creswell & Clark, 2006). Morgan (1998) would categorize our study as "qual-QUANT," in which the qualitative component of the study was conducted first, although it was considered secondary to the quantitative findings. Despite its ancillary nature, the qualitative data in this study were critical because they were used in two ways—first, to develop a quantitative survey, and, second, to elucidate the findings from the survey. In other words, the qualitative data were reanalyzed after the quantitative data were collected and analyzed to elucidate the quantitative findings.

Development of the Instrument

The HYDOS was developed using a culturally "grounded" approach to the development and validation of tests similar to other studies that have focused on the measurement of the cultural context and drug offers or use (e.g., Allen et al., 2006; Okamoto, LeCroy, Dustman, Hohmann-Marriott, & Kulis, 2004). Items were developed from 14 gender-specific focus groups of Native Hawaiian youths, each of which lasted approximately 1 hr. The groups were conducted in four middle or intermediate schools on the Big Island of Hawai'i and in a pilot study school on a different island. In all, 26 female and 21 male youths participated in the focus groups, and the genders of the group facilitators matched those of the participants. The average age of the participating youths was 12.2 years (SD = 0.825). The students were asked to describe situations in which drugs were offered to them or to someone close to them and to provide specific details related to drug offerers, times, and settings or locations (see Okamoto et al., 2009, for a more detailed description of the focus group procedure). The final transcripts from the groups were analyzed to extract 62 representative drug-offer situations (see Table 1 for examples of these situations). The survey was intended to measure the lifetime frequency of exposure to each of these situations and the perceived difficulty in dealing with them. The majority of the items focused on offers of gateway drugs: marijuana (42%), alcohol (32%), and cigarettes (11%); 8% percent of the offers involved multiple gateway substances (e.g., marijuana and alcohol), and 7% involved offers of "hard" drugs (e.g., crystalmethamphetamine).

Participants

The participants were 194 Native Hawaiian or part-Hawaiian youths from seven middle or intermediate schools. These youths were sampled from the same communities as those who participated in the focus groups; however, the two samples were unique to each other. Schools that participated in the study were geographically focused within two of the three complex areas in the State Department of Education on the Big Island of Hawai'i and represented 47% of all middle or intermediate public schools on the island. The mean percentage enrollment of Hawaiian or part-Hawaiian students in participating schools was 40.6 (SD = 4.07; Accountability Resource Center Hawai'i, 2008). Consistent with models of school, community, and university partnerships (e.g., Spoth, 2007), the participants were recruited in collaboration with school-based research liaisons: school staff members, such as school counselors or health teachers, who assisted the university researchers in identifying students, collected parental consent forms from the youths, and arranged for facilities in which to administer the survey on their respective campuses. Youths were identified as Hawaiian in at least one of two ways: they self-identified as "Hawaiian or part-Hawaiian" on the HYDOS or were documented in school records as being "Hawaiian or part-Hawaiian."

Of the 194 participants in the survey, 57% were female and the mean age of the participants was 11.92 years (*SD* = .850). Twenty-four percent were in the sixth grade, 47% were in the seventh grade, and 29% were in the eighth grade. There were no significant differences in age or grade on the basis of gender (see Table 2). The majority of the youths received free or reduced cost lunches (71%). This proportion was higher than the mean percentage of all schools participating in the survey (59%, *SD* = 10.8; Accountability Resource Center Hawai'i, 2008). Significantly more girls than boys in the sample received free or reduced cost lunches, χ^2 (1, *N* = 192) = 8.09, *p* < .01.

Measures

Prior psychometric research on drug offers to Native youths has found that the underlying structure of survey items for these youths was characterized by the type of offerer within each item (e.g., peer items or family items), rather than by the type of drug that was used in each item (e.g., alcohol items or marijuana items; see Okamoto et al., 2004; Okamoto et al., 2010). Therefore, the main dependent variables in the study were from scales that were created from clusters of HYDOS items that described drug offers from the same type of individual (e.g., drug offers from friends). The participants were instructed to respond to each drug-offer scenario using two different 5-point Likert scales—a frequency scale, which asked them, "How often have you been in a situation like this?" (0 = *never*, 1 = *once*, 2 = *2–3* times, 3 = *4–10* times, and 4 = *more than 10 times*), and a difficulty scale, which asked them, "How difficult would it be for you to deal with this situation if you wanted to refuse?" (0 = *very easy*, 1 = *easy*, 2 = *neither easy nor difficult*, 3 = *a little difficult*, and 4 = *very difficult*). The item clusters were created using the frequency scale and included drug offers from parents (5 items, α = .88), uncles or aunts (6 items, α = .86), siblings (3 items, α = .74), cousins (14 items, α = .96), friends (11 items, α = .96), and other peers (14 items, α = .95) and in dating situations (4 items, α = .84). Several different methods were used to aggregate data within each cluster, such as calculating the mean frequency of exposure to items within each cluster, the percentage of items within each cluster that a participant had encountered, or the percentage of times any offer from the item cluster had been received. Exploratory analyses showed that similar conclusions would result from each method. Difficulty scales were also developed using the same item clusters as those that were used to calculate the frequency of offers, and mean difficulty scores from these scales were used as dependent variables in the multivariate analyses.

The main independent variable in this study was the self-reported gender of the participants. Other predictor variables that were entered into the multivariate models included self-reported age in years, grade in school (sixth, seventh, or eighth), participation in the federal school lunch program (a proxy for socioeconomic status [SES]), and family structure (a two-parent household vs. all other family arrangements).

Analyses

Quantitative—Descriptive, bivariate, and multivariate analyses were conducted. Two ordinary least squares multiple regression models were developed to examine the potential gender differences in the frequency of exposure to drug offers by types of offerers and the perceived difficulty of refusing drugs from these individuals in offer situations. In these analyses, the dependent variables were the mean frequency of exposure to offers from a particular source and the mean perceived difficulty in refusing offers from these sources. The bivariate results used dichotomies that were related to exposure to any offers from an item cluster to simplify the interpretation.

Qualitative—All interviews were audiotaped, transcribed verbatim by a member of the research team, and validated by a different member of the research team. A comprehensive

set of open codes (Strauss & Corbin, 1990) that emerged from the focus group narratives was developed by the principal and coprincipal investigators. Intercoder reliability and validity were established using a team approach to coding. Initially, all the members of the research team collectively coded one transcript, to clarify the definition and parameters of all the codes. The remaining transcripts were then independently coded by at least two members of the research team. Narrative segments that were not identically coded by the different team members were discussed, modified, and/or justified for inclusion or exclusion in the data set. After intercoder reliability and validity were established, a content analysis of the "Real Drug Offers" node was conducted to identify representative comments from the female participants. Emergent themes from the male and female participants were compared and contrasted to identify commonalities and differences among the groups.

Quantitative Results

The descriptive statistics in Table 2 illustrate the mean frequency of exposure to drug-offer scenarios from different subgroups of individuals and the perceived difficulty of handling offers from them. These scores are presented for both the full sample and for the male and female subsamples. Overall, the mean frequency and difficulty scores were low (between 0 and 1 on scales ranging from 0 to 4), indicating low exposure to drug offers and a relative ease in refusing them. However, for the frequency scale, the girls reported significantly higher mean frequency scores than did the boys for offers from cousins, friends, other peers, and in dating situations (all *ps* < .05). Furthermore, they reported significantly higher mean difficulty scores from all the offerer subgroups, except siblings (all *ps* .01, except for offers from parents, $p < .05$).

Figure 1 depicts the percentage of respondents who reported ever having an offer from a particular source, regardless of the number of different offers they had or the degree of frequency in which they had them. These findings indicate that the 20–40% of the boys were exposed to at least one offer from a parent, cousin, friend, or peer, whereas 30–50% of the girls were exposed to at least one offer from all sources, except siblings. Nearly 50% of the girls were exposed to drug offers from a cousin, friend, or peer. Furthermore, compared to the boys, the girls were exposed to significantly more offers from cousins ($p < .01$), peers ($p < .01$), aunts or uncles ($p < .05$), and in dating situations ($p < .05$).

Table 3 presents the results of the multiple regression analysis predicting the mean frequency of exposure to drug offers from different sources. Gender differences similar to those depicted in Figure 1 also appeared in the regression analyses, even after we controlled for age, grade level, the receipt of free or reduced cost lunches, and family structure. In addition, the analysis indicated that older youths received more drug offers from peers and in dating situations; low-SES youths received fewer offers from parents, cousins, and peers; and youths from two-parent households received fewer offers from parents.

Table 4 reports the multiple regression analyses predicting the perceived difficulty in refusing drug offers from different types of individuals in the participants' social network. Again, gender was highly predictive in the model, indicating that the girls had significantly more difficulty dealing with drug offers from various sources than did the boys. None of the other variables that were entered into the model predicted difficulty in refusing drugs.

Qualitative Results

Consistent with mixed-methods designs (Creswell & Clark, 2006), the qualitative results focused primarily on the narratives from the girls' groups to elucidate the gender-specific findings from the multivariate models. Of the 14 focus groups, 13 referred to real drug-offer

situations in their homes, schools, or communities. The mean percentage of discussions that focused on these offers across applicable group interviews was 24.6% (31.8% for the girls' focus groups only). Three themes emerged from the girls' groups: (a) early initiation of drug use, (b) indirect drug offers from older family members and peers, and (c) peer conformity and acceptance.

Although the majority of the male and several of the female focus group participants indicated that drug use begins “in high school,” only the female participants described the early receipt of drug offers and use of drugs from various sources. Female focus groups from two different geographic areas on the island indicated that drug offers and use began as early as the fifth grade (10 years old) and often involved older cousins or peers as the primary drug offerers. In the following comment, Dana (all names are pseudonyms) described how she was first offered drugs by her cousin:

> Fourth grade, I was offered marijuana 'cause [me and] my cousin thought it was cool, and all of the kids [in the] fourth grade classes thought we would be cool. So me and my cousin, we went into our bathroom, and then, my cousin started rolling up the paper. And then, before that, she put something in and she rolled up the paper [simulates rolling with her hands]. And I asked her, “What is this?” She was like, “Oh, it's just something good; it makes you cool.” And I'm like, “OK.” So, she gave it to me. She lit it [and] she gave it to me. And then, [she said], “Here, try.” And I'm like, “Are we gonna get in trouble?” She's like, “No.” So then I just did it, and then I went back to class and I kinda fell 'cause I think I had like, four of 'em?

Along with early initiation into drug use, the female participants described how drug offers were often embedded in social situations in subtle, complex ways. Although some of the girls described the stereotypical didactic drug-offer situation (“Do you want to try some drugs?”), many others described indirect drug-offer situations, in which there was an implicit demand to use drugs on the basis of the social context and interactions among individuals. Wilma described the implicit demand to use drugs in the following comment:

> In the summer, I went back to [Kauai] to go and see my family. And, we were at my cousin's house, and then we snuck out. We didn't sneak out, we went outside to the park. And, it was just me and my cousin, and like three other friends, and we [were] just hanging out. And then my friend's ex-boyfriend [and his friend] came to the park to come meet us, and they like brought “hards” and weed and whatever. And then, my friend was all depressed about something. So, she started burning and my cousin started burning and then my other friend started burning. And then we [were] all burning, and we [were] drinking [all the group members laughed].

Similarly, Sunny described a situation involving older boys who offered her friend some alcohol after an extracurricular activity. Because her friend decided to accept the offer, Sunny would eventually be the only person left out of the social situation. This ultimately persuaded her to accept an offer to accompany her friend to join the older boys in a potentially risky situation involving alcohol and marijuana:

> We was hanging with these boys from our team, and they all had snuck like weed and hards and stuff into [the sporting event]. I don't know how, but they did [it] somehow. After [the] race finished, we was all just hanging out under the tent, and they asked my friend if she wanted to go drink, and she said “yeah.” So, she asked me if I wanted to come, and I [said] “yeah” [and I] went [with them].

Finally, there were several situations in which the girls expressed concerns related to conformity to peers and acceptance in drug-offer situations. These concerns often led the youths to accept drugs, even when the initial reaction was to avoid using them. This was particularly true in situations involving older male peers. Powerpuff described how concerns

about conforming to social norms and being accepted by peers ultimately led her to accept drugs:

> I was with my friends in [name of community]. So yeah, my friends were [hanging] around over there. We were hanging out and then, I don't know, a bunch of them came up to me asking me if I wanted to [use drugs]. They asked me, and I felt bad because I was like the only [one not using], and like everybody else was [using]. So, I thought [that] in order to be with them and hang out with them, I had to [use]. So yeah, I did. I was like the only one [initially not using], so I came over and everybody was all drinking, smoking, and all 'kine [of] stuff like that. So, when I came down and walked over there by them, I felt that I was the only one out, so I wanted to be in with them.

Discussion

Using qualitative and quantitative methods, the study examined the gender differences in drug-offer situations for Hawaiian youths in rural communities. Using a recently developed survey that focused on drug-offer situations of these youths, we explored the frequency of exposure to drug offers and the difficulty in refusing drugs in offer situations for both boys and girls. A variety of analytic methods of the survey data revealed similar findings: Compared with their male counter-parts, the girls received substantially more offers from peers and family members and had more difficulty refusing drugs from them. These findings are consistent with those of research on other indigenous youth populations (Dixon Rayle et al., 2006). Compared with the boys, the girls in our study were exposed to situations in which drug use was more normative or prevalent, including party or “cruising” situations involving older cousins and their friends or dating situations involving older boys. These types of situations may have placed the girls at a higher risk for drug offers and subsequent drug use.

A reanalysis of the qualitative data that we used to develop the survey further suggested several reasons for the higher frequency of drug offers to the girls and the girls' perceived greater difficulty in dealing with these offers. The girls' early exposure to drug offers from family members and peers may have increased their overall exposure to these offers compared with the boys and may have placed them at a higher risk of access to drugs at a younger age than the boys. The girls were also frequently exposed to indirect drug-offer situations (e.g., situations in which there was an implicit expectation for drug use), making overt refusal awkward or sometimes impossible. These types of situations, coupled with concerns related to conformity with and acceptance by peers, most likely made resistance to or the refusal of substances difficult for them. Corroborating these findings, exploratory t test analyses of the survey data indicated that the girls reported significantly more difficulty refusing drug offers in 59 of the 62 items on the HYDOS ($ps < .05$; results not presented because of space considerations). Overall, these findings support the importance of the ecodevelopmental context of drug use described in prior research on indigenous youth populations (Dixon Rayle et al., 2006; Kulis et al., 2006) and suggest that this context may affect girls and boys differently.

Hawaiian girls' greater perceived difficulty in refusing drug offers can be further explained through relational–cultural theory. Influenced by a feminist perspective, relational-cultural theory describes how women grow through and toward relationships, building a sense of safety and well-being through positive social connections (Jordan, 2008). On the basis of this theory, women are more likely than men to equate moral decisions with helping and pleasing others, rather than with an abstract principle of justice (Freedberg, 2009). Subsequently, drug offers from significant individuals in the home, school, and/or community may create a major moral dilemma for girls and conflicted thoughts or feelings

regarding their relationship with the drug offerer and/or the consequences to relationships that may occur from their choice of response to the offerer. In drug-offer situations, the internal questions for Hawaiian girls may be, “In what ways may my refusal of drugs damage my relationship with the drug offerer?” and “How may others feel about my refusal of drugs, and what may happen to my relationship with them?” Furthermore, relational-cultural theory suggests that disorder is less about the individual and more about what happens within the relationship (West, 2005). Thus, in addition to creating internal strife, the theory suggests that these types of interactions may place Hawaiian girls at a higher risk than Hawaiian boys of adverse social and behavioral consequences in the future.

Aside from gender differences, there were several other significant findings from the mean frequency regression model. The model indicated that lower SES youths had fewer drug offers from parents, aunts or uncles, cousins, and peers. Although this finding may seem counterintuitive, lower SES may prevent certain youths from gaining access to drugs and alcohol in their homes, schools, or communities. In other words, lower SES may be characteristic of a cultural or social context that does not involve drug or alcohol use and is therefore protective against exposure to these substances. Peer social cliques and familial networks of lower SES Hawaiian youths may, for example, prevent access to substances for financial or social reasons (e.g., the lack of availability of substances in the homes of friends or family members or peer or familial norms against substance use). Similar findings have been described in recent research with other indigenous youth populations (e.g., Yabiku, Dixon Rayle, Okamoto, Marsiglia, & Kulis, 2007). The mean frequency regression model also indicated that youths from two-parent households received significantly fewer offers from their parents. This finding is consistent with the research that has found that single-parent status is a risk factor for adverse behavioral outcomes, such as drug use (e.g., Werner & Smith, 1989). Further, research is needed to understand the relationship among SES, family structure, and offers of and the use of drugs for rural Hawaiian youths.

Implications for Gender-Specific Practice

The findings of this study suggest avenues for culture- and gender-specific drug prevention practices for Hawaiian youths in rural communities. On the basis of the qualitative findings, drug prevention efforts may need to begin as early as the fourth or fifth grade to benefit girls in these communities. Some culturally grounded prevention practices have targeted this age, range and the findings from these efforts have been promising (Hecht et al., 2008). The findings from this study also point to the need for training in social resistance skills that focuses on the most salient drug-related problem situations for rural Hawaiian girls. Social resistance skills have been found to be one of the core effective “ingredients” in drug prevention programs for girls (Kumpfer et al., 2008). Ideally, these skills should be taught in ways that allow these youths to preserve their relationships with peers and family members but still achieve the goal of drug resistance.

Another core component of effective drug prevention programs for girls is the emphasis on significant relationships (Chesney-Lind, Morash, & Stevens, 2008), particularly those between mothers and daughters (Kumpfer et al., 2008; Schinke, Fang, & Cole, 2008). The findings from this study suggest that this emphasis may need to be broadened to encompass relationships with additional family members (e.g., cousins, aunts, and uncles) in gender-specific programs for Hawaiian girls. In sum, gender-specific drug prevention and treatment for Hawaiian girls may need to emphasize the interpersonal aspects of drug resistance in addition to specific resistance techniques (e.g., saying no), which have been the hallmark of many universal prevention programs. An emphasis on resistance training in indirect drug-offer situations may also be an important area for gender-specific drug prevention practices for rural Hawaiian girls. This training may include ways to anticipate and thereby avoid these types of situations and the offerers who are involved in them.

Limitations of the Study

This study had several limitations. Because active parental consent was required for the youths to participate in the focus group and survey phases of the study, the samples may have been affected by a selection bias. Several school-based research liaisons indicated that some of their youths who were most at risk for drug and alcohol use were not given parental consent to participate in the study. The lack of participation of these youths in the study may have affected the narratives within the focus groups as well as the measurement of the frequency of exposure to drug offers and perceived difficulty in dealing with these offers. Furthermore, because the survey was geographically focused on one island, the findings may lack generalizability to rural Hawaiian communities on other islands. Finally, the relationship of both the focus group and survey data to social desirability was not assessed. In both phases of the study, the youths might have either overstated or denied exposure to drug offers, affecting the validity of the findings.

Conclusions

Despite these limitations, the study has implications for understanding the gender-specific etiology of drug use in Hawaiian youths (and possibly for other indigenous youths) in rural communities. Specifically, it contributes to the understanding of the specific relational contexts that place female Hawaiian adolescents at a greater risk of drug offers and use. In this study, these contexts included social gatherings with immediate and extended family members as well as dating situations typically with older males. Because similar gender differences have been found with American Indian youths in the Southwest (e.g., Dixon Rayle et al., 2006), this study contributes to the generalizability of these contexts across populations of indigenous youths. Future research may focus on the ways in which to integrate these contexts into effective, gender-specific prevention practices for rural Hawaiian youths. More research is needed to understand the culture- and gender-specific aspects of drug-use risk and resiliency with this understudied population of youths.

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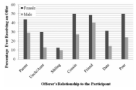

Figure 1.
Gender Differences in the Receipt of Drug Offers from Relational Subgroups.

Table 1

Representative Drug-Offer Situations From the Hawaiian Youth Drug Offers Survey (HYDOS)

Situation 4	Your older brother enters your bedroom, closes the door, and asks you if you'd like to smoke some weed.
Situation 9	On the nights that there is a full moon, lots of the older kids like to go out at night because they can *kanikapila* and smoke marijuana and drink beer outside. Your older cousin invites you to come along.
Situation 14	Your dad, uncles, papa, and dad's friends are making pulehu in the yard, and you are with them. Your mom is inside the house. They are drinking a lot of beer, probably already drunk. Your dad offers you a beer.
Situation 22	One of your classmates always hangs around with this group of older kids, and they smoke weed everyday. One day, your classmate asks you if you'd like to eat lunch with them.
Situation 29	You see some of your friends at the fair, so you go cruise with them for the night. Your friend has weed with her and wants to smoke. She offers you some.

Source: Okamoto et al. (2010).

Table 2

Descriptive Statistics

Variable	Total Sample			Girls Only	Boys Only
	N	*SD*	*M*	*M*	*M*
Frequency of offered substances by parents	194	0.746	0.366	0.431	0.286
Frequency of offered substances by aunts or uncles	194	0.537	0.196	0.228	0.158
Frequency of offered substances by siblings	194	0.496	0.142	0.137	0.152
Frequency of offered substances by cousins	194	0.674	0.314	0.416	0.181
Frequency of offered substances by friends	194	0.697	0.333	0.431	0.207
Frequency of offered substances in dating situations	194	0.634	0.252	0.336	0.143
Frequency of offered substances by other peers	194	0.626	0.273	0.369	0.147
Difficulty in handling offers from parents	191	1.08	0.845	0.984	0.640
Difficulty in handling offers from aunts or uncles	191	1.06	0.774	0.957	0.503
Difficulty in handling offers from siblings	191	1.06	0.787	0.887	0.621
Difficulty in handling offers from cousins	191	1.05	0.843	1.08	0.502
Difficulty in handling offers from friends	191	1.10	0.878	1.11	0.537
Difficulty in handling offers in dating situations	190	1.14	0.969	1.20	0.632
Difficulty in handling offers from other peers	191	1.06	0.881	1.12	0.537
Age (in years)	193	0.850	11.9	11.9	12.0
Grade (6, 7, or 8)	193	0.727	7.05	7.05	7.05

Table 3

Ordinary Least Squares (OLS) Regression of the Frequency of Alcohol, Cigarette, Marijuana, and Other Drug Offers by Type of Offerer

Variable	Frequency of Offers From Parents (N = 142)		Frequency of Offers From Aunts/Uncles (N = 142)		Frequency of Offers From Siblings (N = 142)		Frequency of Offers From Cousins (N = 142)		Frequency of Offers From Friends (N = 142)		Frequency of Offers From Other Peers (N = 142)		Frequency of Offers in Dating Situations (N = 142)	
	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*
Gender (0 = female, 1 = male)	−0.341*	0.135	−0.113	0.099	0.021	0.094	−0.332**	0.119	−0.318*	0.123	−0.326**	0.109	−0.246*	0.115
Age (in years)	0.286	0.149	0.095	0.109	0.070	0.104	0.200	0.131	0.224	0.136	0.255*	0.120	0.266*	0.127
Grade (6, 7, or 8)	0.014	0.172	0.142	0.126	0.103	0.120	0.040	0.152	0.073	0.157	−0.040	0.138	−0.051	0.146
Free or reduced cost lunch (0 = no, 1 = yes)	−0.457**	0.145	−0.226*	0.106	−0.144	0.101	−0.322*	0.128	−0.232	0.132	−0.273*	0.117	−0.138	0.124
Two-parent household (0 = no, 1 = yes)	−0.317*	0.137	−0.137	0.101	−0.113	0.096	−0.188	0.121	−0.130	0.125	−0.154	0.1 II	−0.101	0.117
Intercept	−2.452*	0.949	−1.628*	0.695	−1.257	0.662	−1.867*	0.836	−2.452**	0.863	−2.059**	0.763	−2.276**	0.808
Adjusted R^2	0.133		0.087		0.039		0.104		0.108		0.111		0.069	

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4

Ordinary Least Squares (OLS) Regression of the Difficulty of Alcohol, Cigarette, Marijuana, and Other Drug Offers by Type of Offerer

	Difficulty of Offers From Parents (*N* = 139)		Difficulty of Offers From Aunts/Uncles (*N* = 139)		Difficulty of Offers From Siblings (*N* = 139)		Difficulty of Offers From Cousins (*N* = 139)		Difficulty of Offers From Friends (*N* = 139)		Difficulty of Offers From Other Peers (*N* = 139)		Difficulty of Offers in Dating Situations (*N* = 139)	
Variable	**Est.**	***SE***	**Est.**	***SE***	**Est.**	***SE***	**Est.**	***SE***	**Est.**	***SE***	**Est.**	***SE***	**Est.**	***SE***
Gender (0 = female, 1 = male)	−0.448*	0.191	−0.605**	0.189	−0.288	0.185	−0.677***	0.184	−0.688***	0.191	−0.670***	0.187	−0.599**	0.196
Age (in years)	0.289	0.215	0.306	0.212	0.121	0.208	0.188	0.207	0.090	0.214	0.134	0.210	0.023	0.220
Grade (6, 7, or 8)	−0.361	0.242	−0.388	0.239	−0.201	0.235	−0.141	0.234	−0.071	0.242	−0.187	0.237	−0.040	0.248
Free or reduced cost lunch (0 = no, 1 = yes)	−0.284	0.206	−0.252	0.203	−0.062	0.199	−0.143	0.198	−0.194	0.205	−0.217	0.201	−0.054	0.211
Two-parent household (0 = no, 1 = yes)	−0.235	0.195	−0.156	0.192	−0.045	0.189	−0.155	0.188	−0.122	0.195	−0.197	0.190	−0.161	0.200
Intercept	0.501	1.400	0.424	1.380	0.957	1.356	0.084	1.349	0.828	1.397	1.184	1.367	1.375	1.434
Adjusted R^2	0.026		0.053		−0.013		0.062		0.056		0.062		0.037	

* $p < .05$.

** $p < .01$.

*** $p < .001$.