

Prevalence and Patterns of Health Risk Behaviors of Palestinian Youth

Findings from a Representative Survey

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PREVALENCE AND PATTERNS OF HEALTH RISK BEHAVIORS OF PALESTINIAN YOUTH: FINDINGS FROM A REPRESENTATIVE SURVEY

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SUMMARY

Very little is known about youth health risk behaviors such as drug and alcohol use and sexual activity in the Middle East and North Africa, and in the Occupied Palestinian Territories (OPT) specifically. This lack of information, together with a lack of open discussion of these topics, leaves public health authorities in the region unprepared to deal with emerging public health threats at a time when major social and economic changes are increasing the risks that young men and women face. The Palestinian Youth Health Risk Study was designed to address these gaps in knowledge. It is the first in the region to collect large scale, representative survey data from youth on key risk behaviors (smoking, alcohol and drug use, and sexual activity as well as interpersonal violence). The study investigates the prevalence and patterns of these risk behaviors as well as of mental health, perceptions of the risks of such behaviors, and the factors increasing vulnerability to as well as protection from engagement in them. The study, conducted by researchers at the RAND Corporation, based in Santa Monica, CA, USA, and Juzoor Foundation, based in Ramallah, West Bank, Occupied Palestinian Territories, implemented a representative survey of about 2,500 male and female youth age 15-24 living in the West Bank and East Jerusalem. The main conclusions with respect to prevalence are:

With the exceptions of tobacco use and interpersonal violence (fighting), youth engagement in health risk activities overall is relatively low, but substantially higher for male youth than female youth. Consistent with earlier studies, *tobacco use* among Palestinian youth is very high. Even among younger youth in the sample (age 15-19) 45% of males and 22% of females report current smoking; for older youth (20-24) the shares are 72% and 31% for males and females, respectively. As these shares indicate, prevalence is substantially higher for male youth though by no means trivial for females.

With regard to *alcohol use*, slightly less than one quarter of older (19-24) male youth report having tried alcohol. Rates among female youth in this age group are about half that for male youth (12%). Experience of alcohol among younger youth age 15-19 is lower (8% of males and 3.6% of females).

Relatively few youth report having tried any of a range of *drugs* asked about in the survey, including marijuana or hashish, pills, inhalants, and cocaine or heroin. 10% of males 20-24 report having tried any kind of drugs compared with 4% for younger male youth. Only 4% of older female youth and 1.6% of younger female youth report ever using drugs. Less than a third of those youth who say they ever tried drugs say they currently take drugs.

Questions on *sexual activity* were asked only of non-minors (over 17 years) due to the cultural sensitivity of the subject. 25% of older (19-24) unmarried male youth and 22% of younger (17-18) male youth report having had any sexual experience. Rates for females are generally similar. Experience specifically of *sexual intercourse* among unmarried youth is substantially lower than for experience of any sexual activity: 9.5% of older unmarried male youth and 5.6% of younger unmarried male youth report having had sexual intercourse, compared with 7% for older females and 4% for younger females. Phone sex (sexting) and internet sex involving another person are relatively common among unmarried youth of both genders: among male youth, 38% of older and 33% of younger (age 18 and 19) report having ever engaged in this activity; 30% of older female youth and 23% of those 18 and 19 report having done so.

Finally, in line with what was suggested by earlier studies of the OPT, engaging in *physical fighting* is relatively common, especially among younger male youth 15-19. 56% of males in this age group and 29.3% of females reported engaging in one or more fights in the year prior to the survey.

For all youth, the findings point to tobacco use (especially) and engagement in interpersonal violent behavior as key behaviors deserving of focused attention. Smoking has obvious direct health implications, especially in the long term. Levels of interpersonal violence are quite high though broadly in line with findings from several other middle income countries. Fighting may have direct health implications through injury but also may lead to significant negative emotional outcomes among young people. The causes and implications of violence among Palestinian youth (including the role of conflict and economic stress) should be carefully studied to formulate appropriate interventions. Other risk behaviors such as alcohol and drug use and sexual activity appear low relative to countries outside the region, but remain a source of concern, especially for some subgroups and locations.

There are important patterns in behaviors by location that should inform outreach efforts. For almost all health risk behaviors, there is a pattern of substantially higher prevalence in urban areas and refugee camps compared with rural areas. For example, in both urban areas and camps, 26% of male youth age 19-24 say they have used alcohol, double the share in rural areas (13.2%). For the same group of older male youth, 13% of urban residents and 16% of camp residents say they have tried drugs, compared with 3% in rural areas. Similar patterns across areas are found for females and for younger youth age 15-19. These differences may reflect easier access to alcohol and drugs in urban areas and camps (many of which are also urban), different cultural attitudes in urban vs. rural areas, or a greater ability to engage in these behaviors discretely in urban settings. Self-reported sexual activity exhibits a similar pattern by area.

The size of sample did not permit systematic comparisons across governorates. However, the data do show significantly elevated levels of risk behaviors in Jerusalem. Jerusalem Governorate, which is mostly urban, is divided into 'J1' and 'J2' areas, corresponding to Eastern areas of the city that were annexed by Israel and inside the Separation Wall on the one hand, and other areas, on the other. Among male youth 15-24 in Jerusalem Governorate (J1 plus J2), rates of current alcohol use, having tried drugs, and sexual activity outside of marriage (age over 17) are 13.8%, 15.5%, and 27.5%, respectively. For urban areas in Jerusalem alone they are 16.1%, 18.4%, and 31.0%. These rates are substantially higher than for other urban areas combined (5.1%, 5.5%, and 5.5% for current alcohol use, tried drugs, and sexual activity; $p=0.00$ for Jerusalem vs. other urban for each behavior). A similar pattern prevails for female youth in Jerusalem vis a vis the other governorates.

While refusals to participate in the survey and non-responses to individual questions were low, the accuracy of self-reports of behavior remains a concern. Great effort was made to develop protocols to ensure that youth were comfortable discussing sensitive topics. Youth were also asked less directly personal questions about engagement in different risk behaviors by their general peers in the community (individuals of the same age and gender) as well as by their close friends. Responses to questions about close friends (asked before any questions about the respondent's own behavior) suggest moderately higher levels of engagement than the youths' responses about their own behavior would suggest. On the other hand, the perceived engagement of peers in general in the community is substantially higher than that reported by the respondents about themselves on average. While it is often argued that youth tend to significantly overestimate peer norms of engagement in risk behaviors, this discrepancy may also point to underreporting of own risk behaviors. More research needs to be done in the region, using alternative interview approaches, to explore potential biases in responses to questions about sensitive or stigmatized behaviors.

With respect to a number of patterns, the study findings display a striking similarity to youth or adolescent surveys carried out in other regions. The disparity noted above between self-reported levels of youths' own participation in risk behaviors and their perceptions of the level of engagement of other youth is observed in many studies of youth in the U.S. and elsewhere; as noted, it is typically thought to reflect a tendency of youth to overestimate the extent to which others participate in such behaviors. We also find, similar to studies elsewhere, that a youth's self-reported engagement in risk behaviors is strongly correlated with his or perception of the level of engagement of peers in their community. This suggests that youth are influenced by perceived norms of behavior, though this cannot be established conclusively with the data. Finally, in keeping with studies of youth or adolescents in other regions, youth who engage in one risk behavior (e.g., smoking) are more likely to engage in other risk behaviors (e.g., alcohol).

Interventions for Palestinian youth should be informed by these patterns. As indicated, the findings provide guidance as to where and for whom prevention education programs are most needed. Not surprisingly, young men, especially older male youth, are the most likely to engage in health risk activities. Programs should therefore make particular efforts to engage male youth, but also should not ignore female youth, who while apparently less prone to do so, also engage in these behaviors. With regard to location, urban areas and camps have the highest prevalence and should also be targeted. In addition, the fact that behaviors are ‘clustered’—with youth who participating in risk behavior tending to participate in multiple such behaviors—means that prevention education programs need to deal with a range of connected risk behaviors for which certain youth may be at risk, not just single behaviors such as drug use. Finally, the correlation of an individual’s behavior with perceived level of local peers’ behaviors suggests that influencing what youth think about peers may reduce their likelihood of engaging in risk behaviors, though additional work is needed to better assess whether this relationship is causal as such interventions would assume.

The experience of the Palestinian Youth Health Risk study shows that it is possible to carry out population-based surveys of youth on highly sensitive behaviors in conservative social contexts of the Middle East. Given the lack of information on these behaviors elsewhere in the region, it would be highly beneficial for public health authorities and researchers to carry out similar surveys across the region, both to understand current prevalence and to be able to monitor changes over time.

Future work is planned with the survey data to examine the correlates and determinants of these behaviors, including family situation, exposure to violence, mental health, expectations for the future and assessment of risks of behaviors, and personality traits such as impulsiveness and fatalism. These findings will provide more refined guidance to the development of prevention programs for Palestinian youth.

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INTRODUCTION

Health risk behaviors among adolescents and youth, such as smoking, drug and alcohol use, and sexual activity, are a global concern. Smoking, drug and alcohol use during adolescence have long been recognized as having direct health implications and may increase the risks of developing chronic dependence and illness in adulthood (Viner and Barker 2005; WHO 1993). Research in the U.S. and other contexts has also shown that young people's likelihood to engage in such behaviors is positively related to their beliefs regarding peers' engagement in them (Rimal and Real 2005; Simons-Morton and Farhat 2010; Perkins and Wechsler 1996). Further, youth who engage in one risk behavior tends to engage in others, that is, the behaviors are clustered, with implications for the design of prevention programs.

There is little systematic information about the levels or patterns of most health risk behaviors among youth in the Middle East and North Africa including sexual activity and drug and alcohol use. This lack of information, together with a lack of open discussion of these topics, leaves public health authorities in the region unprepared to deal with emerging public health threats at a time when major social and economic changes are increasing the risks that young men and women face. For example, rates of pre-marital sexual activity are apparently rising as young men and women stay in school longer and marry at older ages (Shepard et al 2005). Illicit drug use among youth, including injecting drug use, has emerged as a serious public health issue in several countries in the region (Shepard et al 2005; Roudi-Fahimi 2007). Tobacco use among young people in the region, about which more is known, is very high in a number of countries (Usmanova and Mokdad 2013).

There is therefore a strong need, recognized by international agencies (UNAIDS 2008, World Bank 2005) and a growing number of governments of the region, for an understanding of the patterns and causes of youth risk behaviors, including those associated with increased HIV risk. Such information will both reveal the epidemiology of these behaviors and provide policymakers with the ability to target appropriate prevention programs to those at highest risk.

Youth in the Occupied Palestinian Territories (OPT) of the West Bank, East Jerusalem, and Gaza are experiencing the same risks and trends as their counterparts elsewhere in the region. Rates of tobacco use are very high for both genders (Ghrayeb et al. 2013; Hussein et al. 2010; Musmar 2012). Drug use is a growing concern, although systematic data have been lacking. There were about 10,000 and 15,000 registered drug abusers in the West Bank/Gaza and East Jerusalem, respectively in 2008 (INCB 2008). Youth unemployment, considered a risk factor for drug use (Morell et al. 1998, Peck and Plant 1986), is very high in the OPT (26% and 55% in West Bank and Gaza, respectively, for those age 20-24) due to conflict, Israeli restrictions on travel from the West Bank to Israel, and embargo in Gaza (Palestinian Central Bureau of

Statistics 2010). A further risk factor that is very pronounced in the OPT is exposure to long term conflict and hardship; in other contexts such as the U.S., exposure to violence (though not political violence) is linked to youth engagement in unsafe sex or having multiple partners, smoking and drug use Ben-Zur H, Zeidner M. 2009, Pat-Horenczyk et al. 2007) as well as early pregnancy (Wilson and Daly 1997).

Existing studies of the OPT and of the region have serious drawbacks that limit the conclusions we can draw from them about the actual prevalence and patterns of these behaviors, which is critical for effective policy responses. First, prior studies of youth risk behaviors as well as mental health in the OPT and the region mostly use convenience samples of students in classrooms rather than representative, random samples that include out of school youth who may be at greatest risk. Second, given the school setting, they focus on younger adolescents, not older youth, who are more likely to engage in risk behaviors. Third, they do not ask about most risk behaviors or if they do, they do not ask about the respondents' own engagement in them but only about their perceptions regarding peers.

In order to address these gaps in knowledge, we designed and implemented the Palestinian Youth Health Risk Study, which is the first in the region to collect large scale, representative survey data from youth on key risk behaviors (smoking, alcohol and drug use, and sexual activity). The study was designed to investigate (1) the prevalence and patterns of health risk behaviors as well as mental health among Palestinian youth, (2) youths' perceptions of the risks and benefits of potentially harmful behaviors, and their subjective expectations about future life chances; (3) the relationship of exposure to violence (a significant consequence of occupation and political strife in the OPT) to mental health, future orientation, and engagement in high risk behaviors; (4) the effects of other factors including education, socioeconomic status, and location on risk behaviors.

To achieve these aims the survey also gathered detailed information on mental health, risk perceptions, exposure to violence and other factors which may be drivers of risk behaviors. It also collected information on youth's perceptions about the extent of risk behaviors among both general peers, defined as youth in the community the same age and sex as the respondent, and proximate peers, defined as the three peers closest to the respondent. The purpose of collecting this information was two-fold. First, because peer norms (perceived behavior of peers) itself may be an important driver of a youth's own engagement in behaviors, and second, because responses about peers may be less subject to bias from respondents' concerns over stigma or inclination to provide socially desirable answers than responses to questions about their own behavior. The study was conducted by researchers at the RAND

Corporation (based in Santa Monica, CA, USA, and Juzoor Foundation, based in Ramallah, West Bank, OPT.¹

The objective of the present paper is to present findings on the prevalence of risk behaviors among youth 15-24, considering variations by gender, age, and location. Location is a potentially important factor for risk behaviors given the differences between rural and urban areas of the OPT—and between them and refugee camps—with respect to community cultural attitudes, access to alcohol and drugs, and economic pressures and political tensions (the latter being especially severe in camps and in East Jerusalem). The paper also provides the first systematic investigation of whether patterns in risk behaviors found among youth in other contexts are also found in the environment of the Middle East and the particular environment of the OPT. For example, we examine whether multiple risk behaviors occur together (for example, if a youth's use of tobacco is related to his or her alcohol use), and whether perceived peer norms of behavior are related to a youth's own likelihood of engaging in that behavior. The findings of this analysis will be important inputs into the development of policies to target vulnerable youth.

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METHODS

Study population, sampling, and survey development

The survey aimed to achieve a representative sample of youth age 15-24 living in the West Bank and East Jerusalem. Initially it was planned to include Gaza in the survey, but logistical and cost considerations made this infeasible. A target sample size of 2,500 youth, split equally between males and females, was selected to enable meaningful statistical comparisons by gender for younger and older youth (15-19 and 20-24), by urban and rural areas, and for Jerusalem vs. other governorates.² A stratified two-stage random sample was drawn based on the 2007 Population Census, with the strata formed by crossing the 12 governorates with urban, rural, and refugee camp location. Within each of these strata, survey clusters (census enumeration areas) were randomly sampled with probability proportional to size for a total of 208 clusters.³

Within each cluster (essentially, community), a modified random walk procedure was followed to locate 14 households with youth in the appropriate age range. Implicit stratification was used to ensure equal numbers of male and female youths (during the random walk, the teams first looked for a household with a male youth, then one with a female youth, and so on). Where households had more than one individual age 15-24 of the targeted gender, Kish tables were used to randomly select the youth for interview. Both the household head or a parent and the youth were interviewed; the latter was the key respondent. In some urban areas, it proved difficult to find households with youth. In Ramallah, for example, which is the *de facto* Palestinian capital, many apartments are inhabited part time by families that usually reside elsewhere. Therefore in some clusters a considerable number of residences had to be visited before households with youth were identified.

Extensive formative research, including focus groups and interviews with youth followed by repeated cognitive testing of survey questions, was carried out to determine the optimal culturally appropriate approaches to interviewing as well as question wording, sequence, and response formats. The questionnaire and field procedures were piloted in one urban area and one rural area, after which final refinements were made.

² Jerusalem Governorate is divided into 'J1' and 'J2' areas, corresponding to Eastern areas of the city that were annexed by Israel and inside the Separation Wall on the one hand, and other areas of Jerusalem Governorate, on the other.

³ The sampling and cluster selection was carried out for the study by the Palestinian Central Bureau of Statistics. We greatly appreciate the work of Nayef Abed of PCBS on the sampling.

Consent and interviewing approach: For minors (under 18) parental consent was obtained to interview the youth. Parents were informed of the purpose and nature of the study. Separate consent was obtained from all youth. In view of the highly sensitive nature of the subject matter in this culturally conservative environment, interviewers were strictly instructed to ensure that the youth interview was carried out in a private room or other private area (in some cases this was on the flat roof of the home). Youth were also given the option of meeting separately at a local youth center or other location for the interview, though in practice relatively few did so, and almost no girls did so, reflecting greater constraints on their movement. Male youth were interviewed by male interviewers and female youth by female interviewers. Also reflecting perceived sensitivities of parents and the youth, questions on sexual activity—considered the most sensitive of the behaviors—were not asked of minors. The study was approved by RAND’s Human subjects Protection Committee. Refusal rates by youth were almost uniformly low—11% for the survey overall—but significantly higher (about 30%) in the area of East Jerusalem (discussed further below).

Interviews were conducted face-to-face, with one partial exception. Initially it was planned to use computer assisted self-interview (ACASI) for sensitive questions, whereby the respondent indicates on a small notebook computer or other device (out of view of the interviewer) the answer to questions read aloud by the interviewer. Studies have shown that ACASI yields more honest responses about highly stigmatized behaviors in some settings (Hewett et al. 2004; Mensch et al. 2008). However, extensive formative research revealed a strong general bias among youth against using computers for interviewing in this way, and a preference for being asked (and responding to) these questions in a face to face format.

Nonetheless, youth respondents were given the option of using a self-administered (paper) questionnaire (SAQ) for questions on sexual activity, which were deemed to be the most sensitive. This approach retains the face to face format, with the questions read aloud by the interviewer, but the answers are written by the youth and placed in a sealed envelope that could not be opened without detection, and was delivered directly to the team supervisor by the interviewer. No respondent or family names or addresses appeared on any questionnaire forms used by the survey; only ID numbers, which were linked to names on crosswalk lists maintained by the supervisors for the duration of the survey, appeared on the questionnaires

After initial fieldwork revealed that very few youth chose the SAQ, possibly reflecting a lack of understanding of the method, it was decided to randomly allocate youth to SAQ or FTF for sexual activity questions to ascertain if the mode mattered for responses, an important question for future surveys on these topics. This analysis will form the focus of a separate study.

Data analysis

The analysis in this paper is a largely descriptive portrayal of the prevalence and patterns of a range of health risk behaviors covered in the survey. Analysis of differences in behavior by subgroups was done primarily using Pearson chi-square tests. To examine the relationship of friends' and peers' behaviors with own behavior, we conducted regressions of perceived friends or peers shares engaging in the behavior on the respondent's own self-reported engagement in the behavior, with controls for age and location (urban, rural, camp). To examine the relationships of individual risk behaviors, we use logistic models to estimate odds ratios of engaging in one behavior conditional on engaging in another, with controls for age and location. Given the large anticipated differences by gender in health risk behaviors in this environment, separate analyses are performed for young men and young women. The analysis was done using STATA version 13, applying the 'Survey' routine, which incorporates the survey design, in particular the correlations of standard errors within sample clusters.

RESULTS

Sample composition and characteristics

Reflecting the sampling approach, the overall sample of 2,481 youth is evenly split between males and females (Table 1). There are more individuals in the younger age group (15-19): 1,419 (57% of the total) vs. 1,062 age 20-24 (43%), a pattern that fits the overall demographic profile of Palestinians in the OPT. (below we use the term 'older youth' to refer to the 20-24 age group and 'younger youth' to refer to 15-19 year olds). However, while the stratification by gender assured equal shares of males and females, the balance between younger and older youth differs by gender. Males age 20-24 make up 40% of all the male youth, while the older female group accounts for 45.7% of all females. This is likely explained by older male youths being more likely to be living away from home, or if living at home, being unavailable for interview even after multiple attempts at contact.⁴

About one quarter of the sample are refugees (Table 2). 'Refugee' is an official designation referring to someone who lost land or livelihood during the 1948 or 1967 conflicts or who is the descendent of such a person, and is eligible for services provided by the United Nations Relief and Works Agency (UNRWA) and other agencies. It should be noted that most refugees are not actually living in refugee camps, which account directly for only a small share of the refugee population.

As Table 2 indicates, the majority of younger youth 15-19 are still in school (79% males and 85% females) while the opposite is the case for the older group (33% males and 40% females). The substantially higher educational enrollment of female relative to male youth is noteworthy ($p=0.001$ for age 15-19, $p=0.011$ for age 20-24) and consistent with other data sources; for example, published data from the Palestine Central Bureau of Statistics indicates that some 60% of university students are female (PCBS 2014).

Differences in education by location are important, with youth in camps being markedly less likely to still be in school and having lower grade attainment. Among male youth (all ages), while 60.4% of urban respondents and 64% of rural report being in school, only 45% of those in camps do ($p=0.019$ and 0.006 for comparison of camps with urban and rural areas, respectively). For female youth, about 65% of both urban and rural youth are in school compared with 58% for camps but the differences are not statistically significant ($p=0.253$ and

⁴ In cases where the targeted youth (selected from among those living in the household) was not initially available, interviewers were instructed to make up to two subsequent visits to the residence to connect with the individual.

0.200). It should be kept in mind (for here and for findings below) that power for detecting differences between camps and rural or urban areas is low because of the relatively small number of sampled youth in camps.

Marital status differs very strongly by gender, with only 6.5% of older male youth married compared with 43% of older female youth (who obviously, given this imbalance, tend to marry older males). Reflecting this, a substantial share (35%) of older female youth live away from their parents in their new households, while almost all young men in that age group are still living at home with their parents. The shares of female youth who are married does not vary greatly by location. Slightly less than a third of all male youth are currently working compared with only 6% of females; for both, rates are higher for older than younger youth, as expected. These figures for levels of economic activity, including in particular the differences by gender, are in line with other data from the OPT and are similar to findings from across the Middle East.⁵

Differences in family socioeconomic status by area are noteworthy. Information on ownership of various consumer durables like cars, TVs, and microwaves was used in a factor analysis to create a household wealth index. By construction, the mean of the index for the overall sample is zero with a standard deviation of 1.0. Rural respondents are less well off than urban residents: for both males and females, the difference is about 0.3 s.d. of the index ($p=0.001$ and 0.00 , for males and females, respectively). The point estimates suggest that wealth among camp residents is even lower than for rural areas but these differences are not statistically significant for either gender. Values of the asset index for females are consistently lower than for males, likely reflecting that a significant share of females live with their spouses in recently formed households rather than with parents who have more accumulated wealth. With regard to parental schooling, mother's education (share having attained secondary level) is also highest in urban areas, though education of fathers seems highest in rural areas.

Health risk behaviors

Before discussing prevalence findings we present the shares of respondents who did not respond to questions about their engagement in health risk behaviors. Together with refusal to participate in the survey (which as discussed above was low) and underreporting (discussed below), low levels of response to specific questions is a potential source of bias in prevalence estimates of behaviors. For sensitive questions, there was a coded 'No Answer' response for the interviewer to mark if the youth was not willing to respond; for some questions, for

⁵ The 2013 Palestine Labor Force Survey (PCBS 2014) indicates a labor force participation rate of 49% for males 15-24 and 8.8% for females (figures include Gaza). Note that participation includes both those employed and those searching for work.

example on peers' behavior, a 'Don't Know' was also allowed. For most questions about the respondent's own health risk behaviors discussed in this paper, non-response rates were very low—under 1% of the relevant sample for the question (that is, respondents who, given filter patterns in the questionnaire, were asked the question). Non-response rates for these questions are shown in Appendix Table 1. Rates of non-response or 'No Answer' are somewhat higher (though under 5%) for questions on current drug use, which were asked of those who indicated in the preceding questions that they had ever tried drugs.

We also report in Appendix Table 1 the shares of missing values for the same questions, where no response at all was coded by the interviewer. By and large these also are not significant—under 1% of the relevant sample. One significant exception is the non-trivial number of missing values for the question about current drug use, which should have been asked of all respondents reporting that they had ever used drugs: the current use question is missing for 17% of this group. This is, presumably, not a matter of non-response since 'No answer' was explicitly coded as response as with the other behavior questions. Instead, it appears that the follow-up question was inadvertently skipped in some cases of individuals having reported ever using drugs.

Smoking: Turning to the prevalences of risk behaviors, the survey module on the respondent's health behaviors asked first about smoking, as this is the least stigmatized of health risk activities. Smoking (including both cigarettes and *narghila* or water pipe) is very common among Palestinian youth, in line with other studies of adolescents or youth in the OPT (Husseini et al. 2010, Ghayeb et al. 2013). As shown in Table 3, almost three-fourths of older male youth smoke while almost half of younger male youth do. Rates are substantially lower for females but still significant: 31% for older female youth and 22% for younger females ($p=0.00$ for male-female difference for both older and younger groups, respectively). Reported tobacco use is lower in rural areas, especially for female youth: among older females, 37% of urban respondents report smoking compared with 16% of rural respondents ($p=0.00$).

Alcohol use: Slightly less than one quarter of male youth age 20-24 report having tried alcohol; rates in urban areas and camps (26% in each case) are double that in rural areas (13.2%; $p=0.002$ and 0.039 , for comparison of rural with urban areas and camps, respectively). Rates among female youth 20-24 are substantially lower, but with a similar pattern by area: 12% overall reported having tried alcohol (15% in urban areas, 12.8% in camps, and 3.5% in rural areas). Among younger youth, 8% of males and 3.6% of females report ever trying alcohol, again with higher shares in urban areas and camps ($p<0.05$ for urban-rural differences for both younger and older youth; $p = 0.114$ for difference between camps and rural areas for younger youth and $p = 0.021$ for camps vs. rural areas for older youth.)

Reported *current* alcohol consumption (having had alcohol in the last 30 days) is lower. Slightly less than 10% of older male youth, and 3.4% of younger male youth, say they currently consume alcoholic drinks; 4% of older females and 1.2% of younger females say they currently drink. Differences across areas are statistically significant for urban vs. rural areas for younger youth ($p=0.001$), urban vs. rural for older youth ($p=0.005$) and camp vs. rural for older youth ($p=0.044$).

Drug use: Relatively few youth report having tried any of a range of drugs asked about in the survey, including marijuana or hashish, pills, inhalants, and cocaine or heroin (separate questions were asked for each type). 10% of males 20-24 report having tried any kind of drugs compared with 4% for younger male youth. Only 4% of older female youth and 1.6% of younger female youth report ever using drugs. Patterns by location are similar to that for alcohol in that self-reported drug use is markedly higher in urban areas and camps than in rural areas. For example, 16% of older male youth in camps and 13% in urban areas report ever using drugs compared with 3% for rural (p for difference with rural areas= 0.0074 for camps and 0.0048 for urban areas for older male youth). Among youth saying they ever took drugs, the most common types are marijuana/hashish (tried by 57% of those ever using drugs), inhalants (42 %) and pills (14%).

For those who say they had tried drugs, the survey asked about current drug use (“These days do you take any drugs?”). As indicated above, there was a non-trivial number of missing values (17% of those eligible for the question). Among those in the group who had ever tried drugs and were asked about current use, about 1/3 of both the younger and older male youth said they currently used drugs of some kind; 29% of the older females and 9% of the younger females ever trying drugs said they currently use them (Table 3). If missings for this question among the group of ever users are random, this implies that about 3.6% of older male youth and 1.1% of younger male youth, and 1.2% of older females and 0.15% of younger females, currently use drugs.

Sexual activity: Youth were asked if they had ever had experience of sexual activity with a member of the opposite sex, defined as “romantic kissing, touching private body parts, or sexual intercourse”. The question was asked only of unmarried, non-minor (over 17 years) youth. 25% of older unmarried male youth and 22% of younger male youth report having had sexual experience. Rates for females are generally similar, though unexpectedly, the point estimate is higher for younger females than older females (25% vs 21%) but the difference is not significant ($p= 0.363$). Male-female differences are not statistically significant ($p=0.432$ for younger males vs. younger females, 0.288 for older males vs. older females). Rural-urban differences appear more pronounced for males: for older males, the shares are 28% in urban areas, 14.5% in rural areas, and 38.2% in camps ($p=0.0302$ for urban vs. rural, $p = 0.2924$ for urban vs camps for this group).

Those reporting having had any sexual activity were then asked specifically if they had ever had sexual intercourse (SI), defining the term explicitly to avoid ambiguity (in what follows, we refer to 'SI' to indicate this question, while 'had sexual activity' refers to the broader question of any such activity, potentially but not necessarily including intercourse). Experience of SI among unmarried youth is substantially lower than for experience of any sexual activity. Among males, 9.5% of older (20-24) unmarried male youth and 5.6% of younger (18-19) unmarried male youth report having had sexual intercourse. For females, corresponding shares are 7% for older females and 4% for younger females (p-values for male-female differences are 0.200 for older youth and 0.511 for younger youth). Note that the younger group here includes only those who are age 18 and 19, that is, non-minors. For both genders and both age groups, rates of SI experience are markedly lower in rural areas than urban areas and camps.

For unmarried males reporting having had SI, the partner in the most recent occurrence was a 'casual acquaintance' in 39% of cases, followed by a girlfriend (38%) and sex worker (21%). For unmarried females reporting having had SI, the partner in the most recent occurrence was a boyfriend in 43% of the cases, followed by fiancée (30%) and casual acquaintance (13%). Contraception use was reported in 73% of these cases for both males and females; the most common method was condoms (approximately three quarters of those who reported using contraception).

Qualitative formative research suggested that same-sex relations were, if not very common, not exceedingly rare, and so the survey also asked about experience of sexual activity (and for males, SI as well) with members of the same sex. 2.2% of unmarried males 18 and older and 1.7% of females reported such activity. Note that for males this is approximately 10% the magnitude of those reporting any sexual activity with the opposite sex, and somewhat below that for females.

Finally, the survey gathered information on both phone sex (sexting) and internet sex; the latter was defined in the question as interaction with another person, not merely viewing sexual material online. These non-physical forms of sexual interaction are relatively common among unmarried youth of both genders: among male youth, 38% of older and 33% of younger (age 18 and 19) report having ever engaged in either of these activities; 30% of older female youth and 23% of those 18-19 report having done so.

Interpersonal Violence: The survey asked respondents if they had been involved in a physical fight in the last year (and how many times), as well as asking if they were ever hurt or injured, or ever hurt or injured someone, in a fight. The question is not intended to capture participation in politically motivated violence or altercations with either Israeli or Palestinian authorities (the question asks "Were you involved in a physical fight with someone in the last year?"), though it is possible that some such occurrences are included in the responses.

Fighting is not uncommon, especially among males and among younger youth. Among youth 15-19, 56% of males and 29.3% of females reported engaging in one or more physical fights in the year prior to the survey. Among older youth 20-24, 38% of males and 21% of females report have been in a fight ($p=0.000$ for males vs. females in both age groups). Of those who said they were involved in fighting, 42% reported just one incident in the last year, 42% report 2-5 incidents, and the remaining 16% reported a higher number. With respect to area patterns, for both younger and older age groups we find statistically higher prevalence in urban areas than rural areas ($p = 0.049$ for urban vs. rural areas for younger youth, $p = 0.000$ for older youth). There is some evidence of higher prevalence in camps than rural areas ($p = 0.076$ and 0.053 camp vs. rural areas for younger and older youth, respectively).

Responses about ever being hurt or injured or hurting or injuring someone else in a fight, also shown in Table 3, display similar patterns by gender. The apparently higher shares of younger youth relative to older youth reporting either event seems implausible, since the cumulative likelihood of ever have hurt someone or been hurt will rise with age even if older youth fight less. Older youth may have more difficulty recalling such an occurrence that happened some years earlier, or possibly are more embarrassed to report it.

Further patterns by area

As seen above, urban areas have substantially higher prevalence than rural areas of most youth risk behaviors. Variations across governorates are also of significant interest. While the sample was stratified on governorate by urban, rural, and camp areas, it was not powered to detect differences across the governorates. Nonetheless, the data suggest substantial variation across governorates as well as across urban areas, and in particular, of significantly elevated levels of risk behaviors in Jerusalem. Jerusalem Governorate, which is mostly urban, is divided into 'J1' and 'J2' areas, corresponding to Eastern areas of the city that were annexed by Israel and inside the Separation Wall on the one hand, and other areas, on the other. Among male youth 15-24 in Jerusalem Governorate (J1 plus J2), rates of current alcohol use, having tried drugs, and sexual activity outside of marriage (age over 17) are 13.8%, 15.5%, and 27.5%, respectively. For urban areas in Jerusalem alone they are 16.1%, 18.4%, and 31.0%. These rates are substantially higher than for other urban areas combined (5.1%, 5.5%, and 5.5% for current alcohol use, tried drugs, and sexual activity; $p=0.00$ for Jerusalem vs. other urban for each behavior). For female youth age 15-24 in urban Jerusalem Governorate, rates of current drinking, tried drugs, and (age over 17) having had any sexual activity are 11.6%, 11.5%, and 22.2%, respectively, which similarly are substantially higher than for urban female youth elsewhere in the OPT.

Peers' and friends' behavior

As noted earlier, youth respondents were asked to indicate the share of peers, both general and proximate, who engage in different behaviors. General peers were defined as youth of their age and sex in their communities. Based on pre-testing, we asked these questions in a percentage format. The survey responses suggest that the youth were able to give meaningful responses in this format. For example, there was little clumping of responses at 50%, indicating that youth report actual perceptions of the fractions instead of resorting to the modal response.

However, for some questions there were non-trivial fractions indicating 'don't know' or 'no response'. This share was 1.5% for smoking, 6% for alcohol, 9% for drugs and 12% for sexual relations. Thus the degree of non-response appears to be related to the degree of stigmatization of the activity in question; the very small share for smoking suggests that non-response is not caused by a lack of familiarity with the percentage format. It is not possible to determine whether it is caused by a lack of comfort answering questions about more stigmatized behaviors or that respondents have less knowledge of such behaviors among their peers, in part because these are more likely to be carried out discreetly. However, since almost all youth were willing to answer questions about their own participation in these behaviors (as seen earlier, non-response rates to such questions were very low), lack of knowledge about peers seems the more likely reason.

Questions on peers in general were followed by questions about proximate peers – defined here as the three peers who are closest to the respondent (individuals “your own age and sex who you spend your time with, such as your good friends”) and which we refer to here as 'friends'. The respondent was asked how many of these three individuals engaged in a behavior. For comparisons with own and general peers' rates of engagement in the behavior, the friends responses are also expressed as shares—that is, 0,1,2, or 3 out of 3 total.

Means for shares of friends engaging in each behavior display the same patterns by age, gender, and location as means for own engagement while generally being somewhat higher (Table 4). For example, for male youth 20-24, the mean own smoking prevalence is 71.5%, while it is 76% for friends ($p=0.030$ for the difference); for young women in this age group the shares are 31% and 29% respectively ($p=0.018$). For current alcohol use in this age group, 9% of males say they currently drink, compared with 13% for friends ($p=0.000$); the corresponding figures for females are 4% and 6%. ($p=0.001$)

In contrast, respondents perceive levels of general peers' engagement in risk behaviors that are usually substantially higher than means for their own engagement (as well as that of their friends). For smoking, perceived prevalence of peers is modestly higher than those for own behavior or friends'; peers' prevalence is usually no more than 20% above friends' rates. For

more stigmatized behaviors, however, the differences with own behavior as well as friends are typically large. For example, whereas 9.1% of older male youth say they currently drink alcohol and the mean proportion of friends reported to drink is 13%, the mean perceived rate of drinking among general age-sex peers is 22%; for females in this age group the rates are 4.1% and 6.7% for own drinking and friends and 9% for peers. A similar pattern prevails for drinking among younger youth of both genders. For drug use, even larger proportional differences are seen between own and friends' use (both of which are very low) on the one hand, and peers on the other.

Although perceived general peer engagement in risk behaviors is thus overall substantially higher than that reported for friends and oneself, patterns by age, gender, and location are similar: that is, markedly lower for females than males, and lower in rural areas than in urban areas and camps.

Intracluster consistency of own and perceived peer behavior

We explore the reasons for differences in self-reported own risk behaviors and perceptions about peers in the Discussion section below. Here we conduct a partial check on the validity of the perceptions about peers, based on the idea that if youth were fairly well aware of how their peers behave, responses within a community about these peers should be relatively consistent. This is because the questions in effect ask all respondents in an age/sex category to estimate the same datum--the share of youth like them in the community who engage in a behavior. Therefore these responses, if they are accurately capturing the local prevalence of a behavior, should be relatively highly correlated within sample clusters (of which there are 208 in the survey), and should also be more highly correlated than the intra-cluster responses for own engagement in the behavior, as these do truly vary across individuals within a community. The association of responses within a cluster can be measured with the intracluster correlation coefficient (ICC), the ratio of between-cluster variation over the sum of the total (within-cluster and between-cluster) variation; a higher ICC indicates stronger consistency or relatedness of an outcome within clusters.

As shown in Table 5, for males, ICCs for (own) smoking and drinking are low (.031 and .056) and similar to school-based ICCs in studies of US students (Resnicow et al. 2010). Consistency within clusters of responses regarding both oneself and one's peers is stronger for female than male youth. However, a uniform finding for both genders is that ICCs for responses about local peer engagement in a behavior are substantially larger than for responses about the individual's own behavior; that is, responses within a cluster about average peer behavior in the community vary less than responses about the individual's own engagement. Although it is not possible to state unambiguously what a 'high' value would be for ICCs (they cannot be

interpreted as simple Pearson correlation coefficients), the relative consistency in responses about local peer behavior suggests that the peer prevalence responses are meaningful.

Relationship of own behavior to that of friends and general peers

In Table 6 we examine the relationship of the respondent's own behavior to that of friends and general peers as reported by the respondent. The table compares the mean of friends' and peers' prevalences for respondents who report engaging in a behavior with those who report not engaging in the behavior. In general the differences are very large and statistically significant, with youth who report engaging in a behavior also reporting higher friends' as well as peers' engagement in the behavior ($p=0.00$ in each case). In proportional terms, the differences are largest for drug use. For males, individuals who say they have never tried drugs have a mean reported friends (current) usage of 1% compared with 17% for those who have tried drugs ($p=0.000$), and mean reported peers usage of 8% compared with 26% for those who have tried drugs ($p=0.000$). Patterns for female youth are very similar.

Covariance of individual risk behaviors

Table 7 presents odds ratios of engaging in one health risk behavior conditional on engaging in another, based on logistic models for males and females with controls for age and location (urban, rural, camp). For young men, the associations of risk behaviors are very large. For example, if a male youth is a tobacco smoker, the odds of currently consuming alcohol are about 9 times higher than if he does not smoke ($p= 0.000$); the odds of having ever used drugs are 3.8 times higher ($p= 0.000$); of having had sexual intercourse, about 11 times higher ($p= 0.001$). Lastly, there is an association of smoking and violent behavior but this is somewhat lower: male youth who smoke are about 1.6 times more likely to have been in a physical fight in the last year ($p=0.001$) and the associations of fighting with other risk behaviors are also generally smaller than between the other risk behaviors. However, all odds differences in the table for male youth are significant at $p \leq .05$.

For female youth, the correlations are similarly positive but more variable and less precisely estimated. All of the (small number of) female youth reporting alcohol use also smoke, so no odds ratio is estimated. The relationship of other behaviors to smoking is very strong for females, with ORs of 8.01 for ever tried drugs ($p= 0.000$), 3.98 for any sexual activity ($p=0.000$) and 4.23 for fighting ($p=0.000$). Alcohol use appears to be significantly associated with a higher likelihood of sexual activity and internet/phone sex.

To test whether covariances of behaviors changes as youth get older, the same models were run adding interactions of age in years (and alternatively, an indicator for being in the older 20-24 group) with the given behavior indicator (results not shown). These interaction terms generally were not statistically significant, suggestion no change in the relationships among

behaviors as young people transition to adulthood. One exception was that among females, the relationship between smoking and having had sexual intercourse become stronger with age, though the small number of unmarried females reporting sexual intercourse suggests the need for caution in interpretation of this estimate.

DISCUSSION

This study is the first of which we are aware to collect population-based data on Palestinian – and perhaps any Middle Eastern—youth on the major health risk behaviors, including smoking, alcohol, drugs, and sexual activity. We discuss findings by major topic below.

Levels and variation in risk behaviors

Risk Behaviors levels in International Perspective

Other than smoking and engagement in physical fighting, prevalence of self-reported risk behaviors in our survey of youth are usually at the low end of the range of findings from countries in other regions; lack of comparable data makes it difficult to know how the rates for Palestinian youth compare to those of other Middle Eastern contexts. Data from other regions tend to be for younger youth. Below we draw comparisons where available from other recent studies for similar behaviors and note the age ranges involved. Only samples with significant overlap of age range with our sample are considered. We focus on representative surveys of young people, hence do not include surveys of university students which at least in most low and middle income countries would be a highly selective sample.

Alcohol use: In the U.S., self-reported drinking (once or more in last month) in a nationwide sample of youth 13-18 was 34% for boys and 36% for girls (CDC 2014). In South Africa the equivalent figures were 41% and 30% (Reddy et al. 2010). Among secondary school youth in Bangkok Thailand, 37% reported ever trying alcohol (Ruangkanchanasetr et al 2005); also in Thailand, in a nationwide survey of youth age 13-24, 49% of males and 30% of females said they ever drank, and 38% of males and 15% of females reported drinking in the last 30 days (Sirirassamee and Sirirassamee 2015). Recall that in our sample, only 3.4% of boys and 1.2% of girls 15-19 say they currently drink and 8% and 4% say they ever had alcohol; among youth 20-24, 9.1% of males and 4.1% of females say they currently drink and 22% of males and 12% of females say they ever drank. More in line with our sample, 17% of boys 13-18 surveyed in Tehran, Iran reported ever trying alcohol (Mohammadi et al. 2006).

Drug use: Experience with drugs is significant among US adolescents, with approximately 40% of both boys and girls 13-18 reporting ever trying marijuana, but lower elsewhere. For example, in South Africa 18% of boys 14-18 and 8% of girls reported ever trying marijuana, and in the Thailand national sample of 13-24 year olds, 13.5% of males and 1.0% of females

reported ever trying marijuana. Among youth 15-19 in our sample, only 3.8% of boys and 1.6% of girls said they ever used drugs, which is comparable to rates found in the Tehran sample (2.1% of boys 15-18 reporting using any drugs).

Sexual activity: Self-reports of sexual experience among youth and adolescents varies substantially by country as well, with Palestinian youth again at the lower end of the range (for example, as noted, 10% of unmarried males and 7% of females 20-24 reporting have had sexual intercourse). U.S. and South African adolescents report significantly more experience (US: 48% of boys and 46% report having had SI; South Africa: 45% boys and 30% girls). Similarly, among Thai youth 14-24, 49.8% of males and 31.5% of females report having had SI. In the sample of younger (secondary students) youth in Bangkok, only 10% (boys and girls combined) report having had SI. Close to rates in our sample, in urban China, 7.4% of boys and 2.6% girls in grades 9-12, and 16.2% of male college students and 6.7% of female college student report having had SI (Song and Ji 2010).

Smoking: Where Palestinian youth show particularly elevated levels of health risk behavior is in smoking. Even among younger youth in our sample smoking is significant: 45% of males and 22% of females age 15-19 report that they currently smoke cigarettes or narghila. Our findings are in accord with other surveys in OPT. For example, among students age 13-17 in Tarkumia, a rural area in the south of the West Bank, 47.4% of boys and 16.8% of girls reported smoking cigarettes in the last 30 days (Ghrayeb et al. 2013). In a sample of adolescents in grades 7-10 (ages 12-17) in Ramallah and Jenin Governorates, 39% of boys and 8% of girls said they currently smoke cigarettes or narghila (Husseini et al. 2010); the authors of that study aptly describe tobacco use among young Palestinians as an epidemic.

In contrast, in the US, only 16% of boys 13-18 and 15% of girls report smoking; in South Africa, 26% of boys and 16% of girls smoke. 15.4% of secondary school students in Bangkok report ever smoking, though a nationwide survey of Thailand for 13-24 year olds indicates higher prevalence, with 52% of males reporting ever smoking (39% in the last 30 days) though just 6.3% of girls report every smoking (0.6% in the last 30 days). 13% of boys 15-18 in the Tehran study report current smoking. However, in Jordan, smoking rates seem to approach those among Palestinian youth: among male students age 15-19, 66.4% reported ever smoking and 46.7% said they smoked in the last 30 days; among females, 44.5% reported ever smoking and 25.5% said they smoked in the last 30 days (Malak 2015).

Interpersonal Violence: We note first that our findings with respect to engaging in fighting are broadly in line with those of a 2011 representative survey of violence carried out by the Palestine Bureau of Statistics (PCBS 2011) covering the West Bank and Gaza, though definitions and questions differ. For example, among males 18-29 in that survey, 34% reported suffering physical abuse (not including sexual abuse) in the last year; for women in that age range the

share is higher (43.4%). The questions posed in the PCBS survey referred to being exposed to violence or physical abuse which clearly in many cases will not be the same as engaging in fighting. Still, for young men, these numbers are not very different for self-reported fighting among older male youth (20-24) in our survey, of whom 38% reported being in physical fights in the last year. For women the differences are larger, as only 21% of females 20-24 in our sample reported being in a fight.

Studies on the prevalence of adolescent violence from other countries tend to focus on younger adolescent populations that are not comparable to our older sample; for example, the Global School-Based Health Survey, carried out in numerous countries, focusses on 11-15 year olds. However, some studies consider older, secondary-level students. Levels of engagement in fighting in our sample appear comparable to findings from other middle income countries. Among South African secondary students (mostly age 14-18), of whom 39% of boys and 25% of girls reported being in a fight in the last six months (Reddy et al. 2010); our findings for male and female youth 15-19, over a reference period that is twice as long, are 56% and 29%, respectively. With respect to youth elsewhere in the region, our results are quite similar to findings for secondary students in Turkey (mean age 16.4 years), of whom 61% of males and 22% of females reported being in a fight in the previous 12 months (Alikasifoglu et al. 2004). In a survey of three low-income suburbs of Beirut, Lebanon, 20% of male youth age 13-19 were involved in fighting within a shorter three-month reference period (Hajj et al. 2011).

In the U.S., young people's self-reported participation in fighting is lower: among secondary students in grades 9-12 nationwide, 30.2% of males and 19.2% of females reported being in a physical fight one or more times during the last 12 months (CDC 2013). Note that this is an equivalent recall period to our survey hence suggests a significantly lower level of interpersonal violence than in our sample of youth.

Patterns across subgroups

Substantial variation by age, gender, and location are found in the self-reported risk behaviors of youth in our sample. Engagement in these behaviors is consistently much higher for male youth than female youth, higher for older youth, and higher in urban areas and refugee camps than in rural areas. It should be noted the camps are often located in urban areas, and can be described as low income neighborhoods within these cities. Camps are generally areas of low socioeconomic status and low opportunity (as several variables in Table 2 indicate) which may be a factor in the relatively high participation in risk behavior.

Also with respect to location, Jerusalem Governorate stands out for its high prevalence of alcohol use, drug use, and sexual activity among youth. This may reflect proximity to and ease of access to Israel and hence easier access to drugs and alcohol. Further, J1, the portion of

Jerusalem formally annexed by Israel in 1980, is marked by economic depression, poor social services, and significant social and political tensions (UNCTAD 2013), conditions that may contribute to the propensity to engage in risky behaviors. J2 in contrast is outside the separation wall and remains part of the West Bank, but due to legal ambiguity over Israeli and Palestinian authority in the area, there are very few services and very little law enforcement either by Israel or the Palestinian Authority. Consequently, a thriving drug trade is reported to have developed in J2 (Monks 2011; UNOCHA 2011).

Strong variation in levels of behaviors by area may seem striking in view of the small geographical size of the West Bank. However, travel within the West Bank is difficult and costly due to restrictions imposed by checkpoints, the separation wall, and the need to route around Israeli settlements and roads to settlements. Further, with regard to rural-urban differences, being in rural areas may inhibit engagement in risk behaviors because drugs and alcohol are less available, stigma is higher (such areas being more conservative), and it is harder to be discrete or anonymous in villages than in urban areas. Indeed, formative interviews and focus groups with youth suggested that many youth visit cities to engage in such behaviors to be able to escape the eyes of their communities as well as because this is where illegal substances and alcohol can be easily obtained.

Perceptions of peer behavior and the accuracy of self-reported behavior

The survey was unusual in that it asked about both proximate peers ('friends') and general peers' behavior, in addition to own behavior. The perceived risk behavior of close friends of the respondents is fairly closely aligned with the respondents' own self-reported behavior. However, for peers in general (youth of same age and gender in their community), youth perceive prevalences of behaviors that are substantially higher than their own (self-reported) behavior. In a representative youth sample, sample means for reports of activity of local age/sex peers, friends, and of the respondents themselves should all be similar provided respondents have correct knowledge about their peers and friends and do not misstate what they know about their own or others' behavior. That the means of own and general peer behavior in particular diverge so much is therefore due either to (1) youth underreporting their own behaviors or (2) youth overestimating or over-reporting peer engagement in the behaviors, or a combination of the two.

Regarding (2), large disparities between descriptive peer norms and self-reported alcohol and drug use behavior have been noted for years in the literature in the US and elsewhere (Perkins and Berkowitz 1986; Perkins 1997; Borsari and Carey 2001). Most authors conclude that youth tend to overestimate the share of others who engage in health risk behaviors (though not all agree on the evidence for this, see Pape 2012). It is likely that the same tendency would exist in our sample. The fact that estimates of their close friends' engagement in risk behaviors—which

respondents should know fairly accurately—are lower than estimates for general peers suggests that they do overestimate the latter.

At the same time, (1) under-reporting by youth of their own risk behaviors, most of which are highly stigmatized in this context, is also certainly possible. In the US, where the degree of stigmatization is presumably lower, studies of young people's drug use (using biomarkers among other means) suggest underreporting (Delaney-Black et al. 2010). Great effort was made to develop protocols to prevent this in our survey by ensuring that youth were comfortable discussing sensitive topics. Also, the questions about both friends and peers came before questions about the respondent's own behaviors (peers were asked about first, then friends). This means that youth would not be tempted to calibrate their responses about friends and peers to match what they had previously said about themselves. Youth also, as noted, likely have good knowledge about the behavior of close friends (more so than peers in general).

Given these factors, we might accept the reports about friends as being accurate—that is, neither mis-reported or mis-estimated to any significant degree. Further, respondents' own behavior is likely to be similar to that of their close friends on average, suggesting that the reports about friends are generally indicative of the respondents' own behaviors. Finally, given that own behavior reports are generally only moderately lower than for friends, we might conclude that self-reported behaviors are themselves also close to the reality.

However, this may be too optimistic, since youth may be reluctant to reveal what they know about their friends' engagement in risk behaviors as this may be perceived as a negative reflection on them (although we suspect this reluctance would be less than for one's own behavior, and this seems to be borne out in the generally higher means of risk behaviors reported for friends). In sum, there may still be underreporting of risk behaviors of the youth themselves as well as of their friends' behaviors.

Since we are fairly confident of the direction of the potential bias in self-reported behavior (downward), and are similarly confident of the direction of any bias with respect to peers' activities (upward), we infer that these two estimates bound the true prevalence of a behavior. This range suggests that prevalence of most health risk behaviors are still modest but not trivial (and for smoking and engaging in violent behavior, significantly higher). Therefore these behaviors should be a source of concern for health policymakers. Even with uncertainty over exact levels, the results provide an important view into patterns of risk behaviors across age groups, gender, and location. These patterns are consistent across behaviors, and are reflected both in youth's self-reported behaviors and their perceptions of the behaviors of peers.

Relation of own and perceived behavior of peers

Our finding that individuals' self-reported risk behavior is strongly and positively correlated with descriptive peer norms is consistent with studies from outside of the region (Rimal and Real 2005; Simons-Morton and Farhat 2010; Perkins and Wechsler 1996). Like those studies, our results suggest a possible causal link from perceptions of peer engagement to an individual's own participation in health risk activities. Here the emphasis is less on whether these perceptions are accurate than whether they influence one's own behavior. If youth's own actions respond to what they believe their peers are doing, policies that are able to 'correct' overestimation of peers' behaviors—or that actually change the behavior of peers—can reduce individuals' likelihood of engaging in risk activities, by changing descriptive social norms.

However, as is well recognized, correlations of self-reported behavior and perceived peer behavior may reflect selection issues or confounders rather than a causal relation. Those participating in a stigmatized activity may simply have better information about how common that activity is in the community; or respondents may assume that other youth are like themselves in terms of behavior; or youth who engage in a behavior may tend to exaggerate the extent of that behavior among others as a means of self-justification. Each of these factors can explain the correlation of own behavior and perceived peer engagement, apart from any causal relationship. Subsequent analysis of the data will explore these possibilities more deeply with inclusion of confounding variables, though it will be difficult to arrive at a conclusive determination on causality.

Covariance among multiple risk behaviors

Also as in studies in many other settings (reviewed in Monahan and Hawkins 2010) we find that youth who participated in one risk behavior have an elevated chance of participating in other risk behaviors. This pattern is often explained by problem behavior theory, introduced by Jessor (Jessor & Jessor, 1977; Jessor et al., 2003), whereby an underlying behavioral syndrome causes a youth to adopt multiple risk behaviors. We find that 'traditional' health risk behaviors such as smoking and drinking are linked not only to each other but also to engagement in interpersonal violence (fighting), a pattern that has been observed in surveys of adolescents in Western countries (Smith-Kuri et al. 2004). Some research from industrialized countries that examines changes in clustering of risk behaviors as young people transition to adulthood find that the correlations decline with age, suggesting a weakening of underlying problem behavior syndrome (see Monahan and Hawkins 2010), though other studies find no change. In our sample we find few differences in the correlations of behaviors between younger and older youth.

Future analysis of the data will examine whether youth who participate in multiple risk behaviors share important characteristics, namely a lack of protective factors such as family support and income or an excess of risk factors such as exposure to violence or depression.

Implications of the findings

The experience of the Palestinian Youth Health Risk study shows, first, that it is possible to carry out population-based surveys of youth on highly sensitive behaviors in conservative social contexts of the Middle East. Given the lack of information on these behaviors elsewhere in the region, it would be highly beneficial for public health authorities and researchers to carry out similar surveys across the region, both to understand current prevalence and to be able to monitor changes over time. A great deal of effort went into the development of the instruments and field procedures for this study to deal with cultural sensitivities, and this will undoubtedly be necessary elsewhere. Response rates to the current survey were high, but it is expected that there is some degree of underreporting by youth of their engagement in certain behaviors. In other contexts, alternatives such as audio assisted computer interviews may be feasible to reduce bias, even if this approach was deemed not appropriate for the current study.

The survey provides a first clear view of patterns by age, gender and location of health risk behaviors among Palestinian youth. Urban areas and refugee camps have substantially higher prevalence of risk behaviors. Jerusalem appears to have particularly high levels of such activity. Outreach and education programs for Palestinian youth are relatively undeveloped, as they are for youth in the region generally. The current findings provide guidance as to where such programs are most needed. Also, and not surprisingly, young men, especially older male youth, are the most likely to engage in health risk activities. Programs should therefore make particular efforts to engage male youth, but also should not ignore female youth, who while apparently less prone to do so, also engage in these behaviors. Among younger youth, programs will likely need to involve parents, and research is needed on the best way to do this.

For all groups of youth, the findings point to tobacco use (especially) and engagement in interpersonal violent behavior as key behaviors deserving of focused attention. Smoking has obvious direct health implications, especially in the long term. Levels of interpersonal violence are quite high though broadly in line with findings from several other middle income countries. Fighting may have direct health implications through injury but also may lead to significant negative emotional outcomes among young people. The causes and implications of violence among Palestinian youth (including the role of conflict and economic stress) should be carefully studied to formulate appropriate interventions.

With respect to sexual activity, experience with sexual intercourse among unmarried youth seems rare among Palestinian youth, but reported sexual activity overall is not, though it is higher for male youth than female youth. In addition, phone and internet sex is fairly common among even younger youth and females. These forms of non-physical interaction obviously pose no direct health risk. The question is whether they are a substitute for actual sexual contact which is more risky (and harder for young people to arrange in this environment) or a complement to it, or may even lead to actual engagement in these risky behaviors. For both young men and women, there is a positive association of sexting/internet sex with having had intercourse ($p=0.000$ in both cases). This does not mean that the two constructs are causally related (for example we do not control for covariates that may affect both outcomes, which will be investigated in future work with the data). More generally, the implications of the internet and sexting for youth risk behaviors should be subject to further study.

Finally, with respect to a number of key patterns, the study findings display a striking similarity to youth or adolescent surveys carried out in other regions. These include perceived peer norms for risk behaviors that are substantially higher than self-reported engagement in these behaviors; a correlation of a youth's own behavior with these perceived peer norms; and a strong likelihood that youth who engage in one risk behavior also engage in others. Interventions for Palestinian youth should be informed by these patterns. With regard to the last finding, for example, prevention education programs need to deal with a range of connected risk behaviors for which certain youth may be at risk, not just single behaviors such as drug use. In addition, the correlation of an individual's behavior with perceived peer behavior suggests that influencing what youth think about peers may reduce their likelihood of engaging in risk behaviors, though additional work is needed to better assess whether this relationship is causal as such interventions would assume.

This paper provides the first view of Palestinian youths' engagement in a range of health risk behaviors and has been mostly descriptive. Future work is planned with the survey to examine the correlates and determinants of these behaviors, including family situation, exposure to violence, mental health, expectations for the future and assessment of risks of behaviors, and personality traits such as impulsiveness and fatalism. These findings will provide more refined guidance to the development of prevention programs for Palestinian youth.

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TABLES

Table 1 -- Composition of the sample by gender, age and location

		male			female		
		all	15-19	20-24	all	15-19	20-24
urban	Number	811	490	321	810	433	377
	<i>Share (column)</i>	65.4%	65.7%	64.8%	65.3%	64.3%	66.5%
rural	Number	334	198	136	334	191	143
	<i>Share (column)</i>	26.9%	26.5%	27.5%	26.9%	28.4%	25.2%
camp	Number	96	58	38	96	49	47
	<i>Share (column)</i>	7.7%	7.8%	7.7%	7.7%	7.3%	8.3%
All	Number	1241	746	495	1240	673	567
	<i>Share (column)</i>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	<i>Share (row)</i>	50.0%	30.1%	20.0%	50.0%	27.1%	22.9%

Table 2 -- Socio-demographic characteristics of the sample

		male			female		
		all	15-19	20-24	all	15-19	20-24
N		1241	746	495	1240	673	567
Refugee (%)	Refugee	25.38%	23.06%	28.89%	26.37%	27.04%	25.57%
Currently in school (%)	all	60.19%	78.69%	32.32%	64.76%	85.29%	40.39%
	urban	60.42%	79.80%	30.84%	64.81%	85.91%	40.58%
	rural	64.07%	81.31%	38.97%	66.47%	84.29%	42.66%
	camp	44.79%	60.34%	21.05%	58.33%	83.67%	31.91%
Years of schooling		11.29	10.54	12.42	11.93	10.89	13.24
Married (%)	all	2.58%	0.00%	6.46%	22.34%	4.61%	43.39%
	urban	2.96%	0.00%	7.48%	22.47%	4.62%	42.97%
	rural	1.50%	0.00%	3.68%	21.86%	4.19%	45.45%
	camp	3.13%	0.00%	7.89%	22.92%	6.12%	40.43%
Working (%)	yes	31.02%	16.09%	53.54%	6.05%	1.04%	11.99%
Living arrangement %							
	with parents	96.78%	98.93%	93.54%	78.71%	94.95%	59.44%
	With spouse in own household	2.10%	0.00%	5.25%	17.74%	3.57%	34.57%
	Other*	0.64%	0.67%	0.61%	3.06%	1.19%	5.29%
Father's Education - Secondary or higher							
	Urban	56.23%	58.16%	53.27%	47.65%	54.04%	40.32%
	Rural	59.58%	63.13%	54.41%	58.98%	62.30%	54.55%
	Camp	48.96%	50.00%	47.37%	43.75%	44.90%	42.55%
Mother's Education - Secondary or higher							
	Urban	53.14%	59.18%	43.93%	45.56%	51.50%	38.73%
	Rural	47.60%	48.99%	45.59%	40.72%	47.64%	31.47%
	Camp	45.83%	51.72%	36.84%	40.63%	40.82%	40.43%
Asset Index							
	Urban	0.226	0.236	0.212	-0.013	-0.013	-0.012
	Rural	-0.057	-0.074	-0.032	-0.324	-0.275	-0.388
	Camp	-0.085	-0.073	-0.105	-0.398	-0.283	-0.517

Note: * "Other" includes "Living with my spouses' parent(s)", "live with other relatives" and "live with friends"

Table 3 - Prevalence of health risk behaviors by age, sex and location (%)

	Males				Females			
	all	urban	rural	camps	all	urban	rural	camps
Current smoking								
15-19	45.44%	46.53%	41.92%	48.28%	21.55%	26.79%	9.95%	20.41%
20-24	71.52%	77.57%	56.62%	73.68%	31.22%	36.60%	16.08%	34.04%
All	55.84%	58.82%	47.90%	58.33%	25.97%	31.36%	12.57%	27.08%
Ever use alcohol								
15-19	8.04%	9.80%	4.04%	6.90%	3.57%	4.62%	1.05%	4.08%
20-24	22.42%	25.86%	13.24%	26.32%	11.64%	14.59%	3.50%	12.77%
All	13.78%	16.15%	7.78%	14.58%	7.26%	9.26%	2.10%	8.33%
Current alcohol use								
15-19	3.35%	4.49%	0.51%	3.45%	1.19%	1.85%	0.00%	0.00%
20-24	9.09%	11.21%	3.68%	10.53%	4.06%	5.04%	1.40%	4.26%
All	5.64%	7.15%	1.80%	6.25%	2.50%	3.33%	0.60%	2.08%
Ever use drugs								
15-19	3.75%	4.29%	2.02%	5.17%	1.63%	1.85%	0.52%	4.08%
20-24	10.51%	13.08%	2.94%	15.79%	4.23%	5.31%	0.70%	6.38%
All	6.45%	7.77%	2.40%	9.38%	2.82%	3.46%	0.60%	5.21%
Current drug use (as % of those ever use drugs)								
15-19	32.14%	33.33%	50.00%	0.00%	9.09%	12.50%	0.00%	0.00%
20-24	34.62%	38.10%	25.00%	16.67%	29.17%	35.00%	0.00%	0.00%
All	33.75%	36.51%	37.50%	11.11%	22.86%	28.57%	0.00%	0.00%
Had any sexual activity (unmarried only and 18 or above)								
15-19	21.52%	23.90%	10.34%	35.00%	24.87%	27.61%	19.61%	16.67%
20-24	24.51%	27.36%	14.50%	38.24%	20.87%	21.86%	21.79%	10.71%
All	23.50%	26.15%	13.23%	37.04%	22.39%	24.07%	20.93%	12.50%
Had sexual intercourse (unmarried only and 18 or above)								
15-19	5.49%	6.92%	1.72%	5.00%	4.06%	4.48%	1.96%	8.33%
20-24	9.33%	12.16%	2.29%	11.76%	6.85%	8.84%	2.56%	3.57%
All	8.02%	10.33%	2.12%	9.26%	5.79%	7.16%	2.33%	5.00%
Current internet or phone sex (unmarried only and 18 or above)								
15-19	33.33%	32.70%	32.76%	40.00%	23.35%	26.12%	15.69%	25.00%
20-24	37.96%	41.55%	27.48%	47.06%	29.60%	32.56%	20.51%	32.14%
All	36.39%	38.46%	29.10%	44.44%	27.22%	30.09%	18.60%	30.00%
Engaged in a fight last year								
15-19	56.03%	57.35%	53.03%	55.17%	29.27%	30.48%	24.08%	38.78%
20-24	38.38%	41.43%	30.15%	42.11%	20.99%	24.67%	10.49%	23.40%
All	48.99%	51.05%	43.71%	50.00%	25.48%	27.78%	18.26%	31.25%
Was ever hurt or injured in a fight								
15-19	30.97%	33.67%	26.77%	22.41%	16.79%	17.78%	14.14%	18.37%
20-24	26.67%	26.48%	24.26%	36.84%	13.58%	16.18%	7.69%	10.64%
All	29.25%	30.83%	25.75%	28.13%	15.32%	17.04%	11.38%	14.58%
Ever hurt or injured someone else								
15-19	40.75%	43.27%	33.84%	43.10%	14.12%	14.78%	10.99%	20.41%
20-24	36.57%	37.38%	30.88%	50.00%	11.82%	14.32%	4.90%	12.77%
All	39.08%	40.94%	32.63%	45.83%	13.06%	14.57%	8.38%	16.67%

Table 4 - Perceptions of friends' and peers' behavior (% engaging in risk activities)

		Males				Females			
		all	urban	rural	camps	all	urban	rural	camps
Current smoking									
15-19	Friends	54.07	53.40	52.19	66.09	16.87	18.71	11.52	21.53
	Peers	63.99	63.72	60.28	79.18	20.08	23.19	10.60	28.52
20-24	Friends	76.38	76.98	72.06	86.84	27.61	32.71	13.05	31.21
	Peers	80.36	80.45	78.76	85.26	28.78	34.13	11.66	39.11
Current alcohol use									
15-19	Friends	6.41	7.28	3.72	8.19	1.93	2.62	0.70	0.68
	Peers	13.00	13.37	10.86	17.27	5.54	7.36	1.11	7.12
20-24	Friends	13.02	15.26	7.16	14.91	6.71	8.22	2.33	7.97
	Peers	22.47	25.11	15.24	25.53	10.86	13.26	3.11	15.16
Current drug use									
15-19	Friends	1.03	1.23	0.00	2.87	0.25	0.31	0.18	0.00
	Peers	7.60	8.53	3.78	12.71	4.19	5.65	0.55	6.32
20-24	Friends	3.98	5.10	1.23	4.39	2.12	2.57	0.70	2.90
	Peers	13.17	15.24	8.51	12.15	8.10	10.14	0.96	14.05
Current sexual activity, unmarried (intercourse)									
15-19	Friends	4.20	3.99	4.73	4.17	9.79	8.94	10.67	14.07
	Peers	7.68	7.74	7.03	9.31	10.64	12.38	5.32	17.30
20-24	Friends	11.80	13.58	7.45	13.06	20.81	22.18	16.11	25.98
	Peers	14.15	15.37	11.74	11.82	15.21	18.41	5.10	20.00

Notes: 'Friends' refer to three closest friends of the respondent. % for each respondent is calculated as the number reported to engage in the behavior divided by 3. 'Peers' refer to general peers in the community of the same age and sex of the respondent.

Table 5 - Intracluster Correlation Coefficients (ICCs) for own and peers' engagement in risk behaviors

Behavior/Respondent engagement	Males		Females	
	Own engagement	Peer engagement	Own engagement	Peer engagement
Smoking	0.031	0.179	0.343	0.447
Alcohol use	0.056	0.269	0.127	0.575
Drug use	0.106	0.358	0.018	0.592
Ever Sexual intercourse (unmarried)	0.156	0.263	0.201	0.544

Notes: ICC is the ratio of between-cluster variation divided by the total variation, the sum of the within-cluster and between-cluster variation. For smoking, alcohol use, and sexual intercourse, 'own engagement' refers to current self-reported participation of the respondent and 'peer engagement' refers to the perceived share of local age/sex peers participating. For drug use, own engagement refers to the respondent reporting ever trying drugs and peer engagement refers to the perceived share of peers currently engaged in drug use. For own engagement in behaviors, which are binary outcomes, we use the approach of Rodriguez and Elo (2003) to derive ICCs and confidence intervals. All peer and own behavior ICCs are significant at the 1% level.

Table 6 - Mean of Friends' and peers' engagement in risk behaviors by respondent's own engagement in the behavior (%)

Behavior/Respondent engagement		Males				Females			
		Friends	<i>p</i>	Peers	<i>p</i>	Friends	<i>p</i>	Peers	<i>p</i>
Current smoking	No	0.43	0.000	61.95	0.000	0.09	0.000	15.60	0.000
	Yes	0.79		77.37		0.57		47.54	
Current alcohol use	No	0.06	0.000	15.49	0.000	0.03	0.000	6.93	0.000
	Yes	0.59		38.67		0.45		46.55	
Ever tried drugs	No	0.01	0.000	8.36	0.000	0.01	0.001	5.30	0.000
	Yes	0.17		25.87		0.14		28.94	
Ever Sexual intercourse (unmarried)	No	0.06	0.000	10.93	0.000	0.19	0.000	11.68	0.000
	Yes	0.46		32.31		0.72		45.67	

Notes: For drugs and sexual intercourse, questions regarding friends and peers ask about their current engagement behavior, not whether they ever engaged in it. P-values are from regressions of perceived friends or peers shares on the respondent's own self reported engagement in the behavior, with controls for age and location (urban, rural, camp)

Table 7 - Associations of individual risk behaviors (odds ratios)

Males 15-24

	Current smoking	Current alcohol use	ever used drugs	ever had sexual intercourse	ever had sexual activity
Current smoking	--	9.486	3.843	10.988	3.916
<i>p</i>	--	0.000	0.000	0.001	0.000
Current alcohol use	9.486	--	9.453	19.974	9.145
<i>p</i>	0.000	--	0.000	0.000	0.000
ever used drugs	3.843	9.453	--	11.031	8.249
<i>p</i>	0.000	0.000	--	0.000	0.000
ever had sexual intercourse	10.988	19.974	11.031	--	--
<i>p</i>	0.001	0.000	0.000	--	--
ever had sexual activity	3.916	9.145	8.249	--	--
<i>p</i>	0.000	0.000	0.000	--	--

Females 15-24

	Current smoking	Current alcohol use	ever used drugs	ever had sexual intercourse	ever had sexual activity
Current smoking	--	--	8.017	22.499	3.984
<i>p</i>	--	--	0.000	0.000	0.000
Current alcohol use	--	--	3.646	3.394	2.670
<i>p</i>	--	--	0.062	0.075	0.041
ever used drugs	8.017	3.646	--	6.839	2.115
<i>p</i>	0.000	0.062	--	0.001	0.081
ever had sexual intercourse	22.499	3.394	6.839	--	--
<i>p</i>	0.000	0.075	0.001	--	--
ever had sexual activity	3.984	2.670	2.115	--	--
<i>p</i>	0.000	0.041	0.081	--	--

Notes: Based on logit regressions. Shows the increase in the likelihood of engaging in an activity (shown in first column) conditional on engaging the other (along top row). Model also includes controls for age and location. (urban, rural, camp). Among females, all who reported current drinking also reported currently smoking so this relationship is not estimated.

Appendix Table 1 -- Non-response rates for risk behavior questions

	Age 15-19				Age 20-24			
	all	urban	rural	camps	all	urban	rural	camps
Current smoking								
No Answer	0.07%	0.11%	0.00%	0.00%	0.09%	0.14%	0.00%	0.00%
Missing	0.14%	0.22%	0.00%	0.00%	0.09%	0.00%	0.36%	0.00%
Ever use alcohol								
No Answer	0.21%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Missing	0.07%	0.11%	0.00%	0.00%	0.19%	0.14%	0.36%	0.00%
Currently use alcohol (for those who ever used alcohol)								
No Answer	0.00%	0.00%	0.00%	0.00%	0.56%	0.00%	0.00%	6.25%
Missing	5.95%	4.41%	20.00%	0.00%	0.56%	0.00%	0.00%	6.25%
Ever tried drugs								
Marijuana or Hashish								
No Answer	0.00%	0.00%	0.00%	0.00%	0.09%	0.14%	0.00%	0.00%
Missing	0.21%	0.11%	0.51%	0.00%	0.09%	0.00%	0.36%	0.00%
Amphetamine or Trip Pills								
No Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Missing	0.42%	0.33%	0.00%	2.80%	0.56%	0.72%	0.36%	0.00%
Substance inhalation								
No Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Missing	0.28%	0.33%	0.00%	0.93%	0.75%	0.86%	0.72%	0.00%
Cocaine or Heroin								
No Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Missing	0.42%	0.43%	0.00%	1.87%	0.66%	0.86%	0.36%	0.00%
Current drug use (for those who ever used drugs)								
No Answer	2.56%	3.45%	0.00%	0.00%	2.63%	3.23%	0.00%	0.00%
Missing	20.51%	24.14%	0.00%	20.00%	11.84%	11.29%	20.00%	11.11%
Had any sexual activity (unmarried and 18 or above)								
No Answer	0.23%	0.34%	0.00%	0.00%	0.51%	0.20%	0.96%	1.61%
Missing	0.69%	0.00%	1.83%	3.13%	1.53%	1.76%	0.96%	1.61%
Had sexual intercourse (unmarried and 18 or above who have had any sexual activity)								
Missing	1.00%	1.33%	0.00%	0.00%	0.56%	0.00%	2.78%	0.00%

Continued

Note: shows the % of respondents for a given question with a coded response of 'no answer' or (depending on the question responses) 'do not know'. The table also shows the % of missing values for each question, equal to the share of respondents with no coded response to a question they should have been asked, given filter patterns in the questionnaire.

Appendix Table 1 (Continued) -- Non-response rates for risk behavior questions

	Age 15-19				Age 20-24			
	all	urban	rural	camps	all	urban	rural	camps
Current internet or phone sex (unmarried and 18 or above)								
Phone Sex								
No Answer	0.23%	0.34%	0.00%	0.00%	0.13%	0.20%	0.00%	0.00%
Missing	0.92%	0.34%	1.83%	3.13%	0.90%	0.78%	0.48%	3.23%
Internet Sex								
No Answer	0.00%	0.00%	0.00%	0.00%	0.26%	0.20%	0.48%	0.00%
Missing	0.92%	0.34%	1.83%	3.13%	0.64%	0.78%	0.00%	1.61%
Engaged in a fight last year								
No Answer	0.14%	0.00%	0.26%	0.93%	0.00%	0.00%	0.00%	0.00%
Don't Know	0.28%	0.33%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%
Missing	0.21%	0.22%	0.26%	0.00%	0.85%	0.86%	1.08%	0.00%
Self hurt or injured in a fight								
Don't Know	0.21%	0.33%	0.00%	0.00%	0.09%	0.14%	0.00%	0.00%
Missing	0.35%	0.22%	0.51%	0.93%	0.75%	0.72%	1.08%	0.00%
Hurt or injured someone else								
No Answer	0.07%	0.00%	0.26%	0.00%	0.19%	0.29%	0.00%	0.00%
Don't Know	0.35%	0.43%	0.26%	0.00%	0.19%	0.29%	0.00%	0.00%
Missing	0.78%	0.54%	1.54%	0.00%	1.41%	1.58%	1.43%	0.00%

Note: shows the % of respondents for a given question with a coded response of 'no answer' or (depending on the question responses) 'do not know'. The table also shows the % of missing values for each question, equal to the share of respondents with no coded response to a question they should have been asked, given filter patterns in the questionnaire.