The recent rapid spread of HIV infection in Eastern Europe raises important questions about the role of individual attitudes in the prediction and control of this epidemic. This article examines the relationship of family-related allocentrism (familism) to HIV risk behavior and perceived vulnerability to HIV/AIDS across five Central and Eastern European countries. Respondents completed questionnaires measuring allocentric attitudes, giving information about sexual activity during the previous 6 months and perceived vulnerability to HIV infection. As predicted, those scoring high on familism were more conservative in their sexual behavior, with this finding largely consistent across all five cultures and two different occupation groups. An analysis of the relationship between familism and perceived vulnerability to HIV/AIDS revealed a more complex pattern of findings that highlights the need to account for the individual’s previous HIV risk behavior when trying to predict perceived vulnerability to HIV/AIDS from personality attributes and attitudes.

Keywords: allocentric attitudes; HIV risk behavior; perceived vulnerability to HIV/AIDS

The human immunodeficiency virus (HIV) epidemic is a relatively recent phenomenon in Central and Eastern Europe, beginning in the early 1990s. However, World Health Organization AIDS surveillance figures indicate a rapid growth in both HIV and AIDS in Eastern Europe during the past 5 years, with Central and Eastern Europe now showing the world’s steepest HIV curve (European Centre for the Epidemiological Monitoring of AIDS, 1999; Joint United Nations Programme on HIV/AIDS, 2000b). In the towns and cities surrounding Moscow, HIV infection increased five times in the first 9 months of 1999 (Joint United Nations Programme on HIV/AIDS, 2000a), and new infections during the year 2000 were higher than in all previous years of the epidemic combined (Joint United Nations Programme on HIV/AIDS, 2000b). Meanwhile, the geographical location of other, less-infected nations on drug routes, as well as high rates of prostitution and of population movement raises the prospect of rapid increases in infection across this region (Dehne, Khodakevich, Hamers, & Schwartlander, 1999; de Jong, Tsagarelli, & Schouten, 1999).
A number of societal factors have been suggested to explain the rapid rise of HIV infection in this area. These explanations cite the growth of temporary sexual partnerships as a means of economic survival (Kalichman, 1998; Renton, Borisenko, Tichonova, & Akovbrian, 1999; Rhodes et al., 1999), the development of high-risk sexual practices as a coping response to a stressful environment (Kalichman, 1998), the uncontrolled syphilis epidemic (Atlani, Carael, Brunet, Frasca, & Chaika, 2000), the rapid growth of use of injected drugs (Atlani et al., 2000; Dehne, Grund, Khodakevich, & Kobyshcha, 1999), and a persisting gender-role socialization that has led to an acceptance of sexual violence and increased infection risk (Horne, 1999; Kalichman et al., 2000). In addition, several personality-level constructs such as sensation seeking and extraversion (Cooper, Agocha, & Sheldon, 2000), neuroticism and conscientiousness (Costa, Masters, Herbst, Trobst, & Wiggins, 1998), and openness to experience (Trobst et al., 2000) have been found to be related to risky sexual behavior. However, there has been little empirical research examining the individual-level factors that might underlie sexual behavior in the Central and Eastern European region.

This article examines the relationship of allocentric attitudes to HIV risk behavior and perceived vulnerability to HIV/AIDS across five Central and Eastern European countries—Estonia, Georgia, Hungary, Poland, and Russia. Collectivism, together with its complement concept of individualism, is a widely employed concept in cross-cultural psychology and has been extensively measured at the population level (see Kagitçibasi, 1997, for an extensive review of the topic). Corresponding to the cultural constructs of collectivism and individualism are the psychological constructs of allocentrism and idiocentrism (Triandis, Leung, Villareal, & Clack, 1985). Previous research has shown that young adults in more individualist nations are more likely to accept relatively permissive sexual standards (Goodwin, 1999; Hatfield & Rapson, 1996), and a collectivistic and more conventional way of living is likely to encourage more conservative sexual behavior (cf. Triandis, 1995). In their study on culture and sexual behavior among 74,158 participants from 25 countries, Ubillos, Paez, and Gonzales (2000) found that higher mean sexual frequency was associated with higher individualism. A study by Ball and Moselle (1995) showed that there was much less drug taking and other health risk behaviors in Singapore, which is typically considered to be a collectivist country. However, allocentric attitudes at the individual level have not been previously studied in relation to risky sexual behavior and perceptions of vulnerability to HIV/AIDS.

AIMS OF THE STUDY

Our investigation had three aims: First, we aimed to examine the relationship between allocentric attitudes and HIV risk sexual behavior. In line with the notion that allocentrics “have a tendency to accept authority, honor tradition, and are generally conservative . . . they find change difficult and prefer to stick with tried and true” (Realo, Allik, & Vadi, 1997, p. 113), we expected allocentrics to be more “traditional” and less likely to experiment with multiple sexual partners. According to the tripartite model used in this study, allocentrism consists of at least three distinct yet interrelated subtypes focused on relations with family (familism), peers (companionship), and society (patriotism) (Allik & Realo, 1996; Realo et al., 1997). In this article, we are particularly interested in family-related allocentrism, which implies dedication of one’s life to the family and putting its interests higher than one’s personal aspirations. Therefore, we hypothesized that those high in familism would be the most sexually conservative as “family security, honoring parents and elders, [and] respect for traditions serve as guiding principles in familists’ life” (Realo et al., 1997, p. 110).
Second, we sought to explore whether perceptions of personal vulnerability to HIV/AIDS are related to family-related allocentric attitudes. Recent data from Trobst and her colleagues (2000) showed that perceptions of risk were most clearly related to the Big Five personality trait openness to experience. According to Trobst et al., “low openness to experience appears to inhibit accurate assessment of risk by restricting consideration of information and by promoting rigid adherence to long-held beliefs” (p. 1245). Bearing in mind the negative correlation between openness to experience and allocentric attitudes (Realo et al., 1997), we hypothesized that those high in familism will perceive themselves to be at a lower risk of contracting HIV than will those low in familism. We also assessed whether participants were confident of the HIV status of their partners, hypothesizing that those scoring higher on familism would be more confident of their partners’ status.

To further examine both these aims, we also constructed three levels of risk groups and examined the association between familism and perceptions of vulnerability to HIV/AIDS. In this analysis, a low-risk group of individuals (not sexually active or having only one regular partner in the preceding 6 months) was compared with those individuals who were considered to be at medium (multiple partnerships but high condom use) or at high risk (multiple partnerships and low condom use) for contracting HIV. By doing so, we first examined if the three groups differed in the strength of their family-related allocentric attitudes and in their perceptions of their own risk. Again, we expected the high-risk group to score lower in familism, as they would not be restricted by the normative conservative rules that often guide collectivists’ lives (cf. Kagitçibasi, 1997).

Our final, largely exploratory aim was to examine whether culture moderates the associations of familism with HIV risk behavior and perceived vulnerability to HIV/AIDS. Although not being representative of the complete region of Central and Eastern Europe (we did not, e.g., include any Islamic countries in our sample), the five countries studied in our research—Estonia, Georgia, Hungary, Poland, and Russia—have had very different experiences of HIV infection and have employed different policies for HIV treatment and testing (European Centre for the Epidemiological Monitoring of AIDS, 1999; Joint United Nations Programme on HIV/AIDS, 1998). At the beginning of our study in 1998, both Estonia and Georgia showed the lowest rates of HIV infection among the five countries involved in our study (less than 50 cases of AIDS reported in both countries; European Centre for the Epidemiological Monitoring of AIDS, 1999), whereas in Russia, more than 40,000 people were estimated to be living with HIV/AIDS at this time (Joint United Nations Programme on HIV/AIDS, 1998). In spite of a common Communist history, the five countries are also different from each other in terms of past and present historical and political background, the influence and nature of religion practiced, and levels of economic investment and growth—all factors likely to have important implications for the spread of sexual infection (Borisenko, Tichonova, & Renton, 1999; Marquet, Zantedecshi, & Huynen, 1998). In 1999, for instance, the GDP per capita (purchase power parity in US$) ranged from 2,431 in Georgia to 11,430 in Hungary, whereas the percentage of population with access to essential drugs was 33% in Georgia and 100% in both Estonia and Hungary (U.N. Development Program, 2001). Also, religion plays a different role in each of the five countries. Poland and Georgia, for instance, are relatively religious countries where religion (Catholicism and Orthodox, respectively) and everyday life are inextricably linked, whereas in Estonia, the majority of citizens are nominally Lutheran but the role of religion in society is almost nonexistent. We believe that such factors are likely to have important implications for cultural values and attitudes toward the spread of HIV infection, which in their turn, may have a significant impact.
on the forming of beliefs and the planning of actions (Breakwell, 1986; Stephenson, Breakwell, & Fife-Schaw, 1993).

METHOD

PARTICIPANTS

The data reported in this study formed part of a larger, multimethod study of sexual behavior in these countries (see also Goodwin et al., 2003). A total of 503 respondents from five countries (Estonia, Georgia, Hungary, Poland, and Russia) participated in this study (266 men and 237 women), with an age range of 18 to 57 years and a mean age of 33.2 years ($SD = 7.1$). Participants were recruited primarily from two high-risk groups, business people ($n = 251$, mean age = 32.4, $SD = 7.2$) and medical workers ($n = 243$, mean age = 34.1, $SD = 6.9$). These groups live in quite different social and economic conditions and face a range of varying adaptational demands resulting from the economic and social changes of the past decade. Given the poor levels of screening and general hospital conditions in many of the nations under consideration (Renton et al., 1999), medics were selected as a relatively high-risk group, and also represent a population whose knowledge and representations of HIV are potentially highly influential in the broader society (Nascimento-Schulze, Garcia, & Arruda, 1995). Business people were selected as a highly mobile group likely to visit sex workers (Wellings, Fields, Johnson, & Wadsworth, 1994) and thus represented another group potentially at high risk of HIV infection (Barnett, Whiteside, Khodakevich, Kruglov, & Steshenko, 2000; Towianska, Rozlucka, & Dabrowski, 1992). About 85% of those approached agreed to participate.

PROCEDURE

The research team for this project consisted of five principal members from each of the five countries under investigation; the project was led by the second author of this article. All principal researchers were of doctoral level and worked at a major university in their country at the time of the project. Data were collected by the principal researcher in each country during 1999 in the capital cities of Estonia (Tallinn), Georgia (Tbilisi), Hungary (Budapest), and Russia (Moscow). Additional data were collected in eastern Poland, St. Petersburg (Russia), Kuitaisi and Batumi (Georgia), and Tartu (Estonia). To deal with possible cultural biases in research design and implementation procedures, all items were discussed in detail in a group meeting of the principal researchers and reworded to maximize cultural equivalence. All questionnaires used in this study were then back translated by independent bilingual translators and revised versions checked for accuracy. Scales were piloted on a subsample of 10 medical workers and 10 entrepreneurs in each culture to remove any further ambiguities prior to the main data collection. The respondents completed the questionnaires either at their place of work or during business training workshops.

MEASURES

The Collectivism Scale. Respondents were asked to complete a number of different tasks with responses to the Collectivism Scale (Realo & Allik, 1999) of special interest in this arti-
The Collectivism Scale comprises 21 items that are equally divided between three subscales—Family, Peers, and Society. Respondents were asked to indicate their agreement with the items on a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). The items were presented in spiral omnibus format so that respondents could not easily detect the three themes. The scale was already available in Estonian and Russian (Realo & Allik, 1999) but was translated into Georgian, Hungarian, and Polish for this study. From the Collectivism Scale, only the Family subscale (defined as a sum score of the items divided by seven) will be used in our further analysis. Across all participants, Cronbach’s alpha of the Family subscale was .79. Within each sample, the alphas of the Family subscale were .74 (Estonia), .77 (Georgia), .75 (Hungary), .70 (Poland), and .90 (Russia).

Across all samples, the mean score of familism was $M = 3.67$ ($SD = 0.77$). The results of the ANOVA revealed significant differences between cultural samples on the Family subscale, with the Polish sample ($M = 3.88$) being the most family allocentric and Estonian ($M = 3.24$) the least family allocentric sample among the five groups (Georgians, $M = 3.73$; Hungarians, $M = 3.78$; Russians, $M = 3.73$), $F(4, 494) = 11.30$ ($p = .000$). Medical workers scored higher in Familism ($M = 3.85$) than did business people ($M = 3.52$), $t(484) = –4.76$ ($p = .000$), whereas the interaction of cultural group and occupation was not significant.

Sexual behavior and perceived vulnerability to HIV/AIDS. All respondents completed a questionnaire measuring history of sexual relationships and condom use during the past 6 months. Questions asked respondents to indicate whether they had ever had sexual intercourse, the number of sexual partners they had had during the past week, month, or 6 months, and their frequency of condom use during the past 6 months (on a 4-point scale ranging from never to always). They also indicated whether they had ever had a sexually transmitted disease (STD) and whether they had had an HIV status test (both variables scored on a binary scale). Items also ascertained if respondents had ever asked their partners if they had had an HIV test and if they knew the HIV status of all their sexual partners at the time of intercourse (both variables scored on a binary scale). The mean values of the above-mentioned questions separately for the five samples and the two occupation groups are given in Table 1.

Perceived vulnerability to HIV/AIDS infection was indicated by responses to items taken from Harlow (1989), with respondents indicating on four binary indices whether they felt at risk of being infected by HIV/AIDS or suspected they had been exposed to the HIV/AIDS virus (“I feel I am currently at risk of getting AIDS,” “The thought of getting AIDS does not worry me” (reversed), “I sometimes suspect that I have been exposed to AIDS,” “I have had sex with someone who could possibly have put me in risk for AIDS”). Across all participants, a principal component analysis showed that all four items loaded significantly (greater than .45) on a single, unrotated principal component that explained about 35.2% of the total variance. Thus, the General Index of Perceived Vulnerability to HIV/AIDS was defined as a sum score of the four items (higher scores reflect higher perceived vulnerability to HIV/AIDS infection). The mean score of the index was .85 ($SD = .78$), ranging from 0 to 4. A one-way ANOVA revealed no significant differences between either cultural samples or occupation groups in the General Index of Perceived Vulnerability to HIV/AIDS. The interaction of culture and occupation was also not significant.
RESULTS

FAMILISM, SEXUAL BEHAVIOR, AND PERCEIVED VULNERABILITY TO HIV/AIDS

First, the relationship of family-related allocentric attitudes to sexual behavior and perceived vulnerability to HIV/AIDS was studied across all participants.

Respondents scoring higher in Familism reported fewer sexual partners both in the past week ($r = -.09$, $p = .05$), 1 month ($r = -.12$, $p = .007$), and during the past 6 months ($r = -.11$, $p = .011$). People who reported they have had an STD scored significantly lower in Familism ($M = 3.38$, $SD = 0.74$) than did those who had not previously had an STD ($M = 3.74$, $SD = 0.77$), $t(481) = −3.87$, $p = .000$.²

The familialism scores did not differentiate between those respondents who reported having had versus having not had an HIV test. Also, there were no differences in familialism between those respondents who reported having asked versus having not asked their partners if they have been HIV tested. However, as hypothesized, respondents who claimed to know the HIV status of all of their partners at the time of intercourse scored significantly higher in familialism ($t(467) = 4.08$, $p = .000$). The frequency of condom use during the past 6 months did not differ between people scoring low versus high on family-related allocentrism.

PERCEIVED VULNERABILITY TO HIV/AIDS

Contrary to our expectations, the correlation of familialism with the General Index of Perceived Vulnerability to HIV/AIDS was not significant, $r = -.04$. At the level of single items, significant differences across the family-related allocentric attitudes occurred in responses to the question “I have had sex with someone who could possibly have put me at risk of

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TABLE 1

<table>
<thead>
<tr>
<th>Sexual Behavior Across the Five Samples and the Two Occupation Groups</th>
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<tbody>
<tr>
<td><strong>Samples</strong></td>
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<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>Number of sexual partners</td>
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<tr>
<td>In the past week</td>
</tr>
<tr>
<td>In the past month</td>
</tr>
<tr>
<td>In the past 6 months</td>
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<tr>
<td>Use of condoms*</td>
</tr>
<tr>
<td>Have you ever had a STD²</td>
</tr>
<tr>
<td>Have you ever had an HIV/AIDS test²</td>
</tr>
<tr>
<td>Have you ever asked a partner if they have had an HIV/AIDS test²</td>
</tr>
<tr>
<td>Did you know the HIV status of all your partners at the time of the intercourse²</td>
</tr>
</tbody>
</table>

NOTE: EST = Estonia; GEO = Georgia; HUN = Hungary; POL = Poland; RUS = Russia; Bus = business people; Med = medical workers; STD = sexually transmitted disease.

a. Use of condoms during the past 6 months (1 = never to 4 = always).

b. Percentage of respondents saying “yes” to this question.
AIDS.” People who reported that they have had sex with someone who could have put them at risk of HIV/AIDS were significantly less familistic ($F(1, 494) = 6.59, p = .01$). This difference remained significant if the number of partners in the preceding 6 months was added to the analysis as a covariate ($F(1, 489) = 5.45, p = .02$).

**RELATIONSHIP BETWEEN FAMILISM AND PERCEIVED VULNERABILITY TO HIV/AIDS ACROSS RESPONDENTS WITH LOW VS. HIGH RISK TO CONTRACT HIV**

We also examined the associations between familism and perceived vulnerability to HIV/AIDS across individuals with low versus high HIV risk behavior. To this end, all respondents were divided into three groups according to the safety of their sexual practices during the preceding 6 months as follows: (a) low-risk group ($n = 348$)—respondents who indicated they had not been sexually active or had had only one regular partner, (b) medium-risk group ($n = 54$)—respondents who indicated they had multiple casual relationships or more than one regular partner but who usually or always used condoms, and (c) high-risk group ($n = 78$)—respondents who indicated they had had more than one regular partner but who had never or occasionally used condoms during the above-mentioned period.

Cross-tabulation analysis showed that the three groups differed significantly in their knowledge of their own and their partners’ HIV status as well as in their experience of having had an STD. In response to the question “Did you know the HIV status of all your sexual partners at the time of intercourse?” respondents from the high-risk group reported less knowledge than did the other two groups ($\chi^2(2) = 14.5, p = .001$). With respect to the item “Have you ever had an HIV test?” the low-risk group gave more negative answers ($\chi^2(2) = 24.3, p = .001$). In response to the question “Have you ever had an STD?” only 9% of the low-risk but 29% of the medium-risk and 45% of the high-risk group said “yes,” implying that almost half of the respondents in the high-risk group had experienced STDs in their past ($\chi^2(2) = 62.2, p = .001$).

A series of one-way analyses of variance revealed significant differences on the Family subscale with the low-risk group obtaining higher scores than did the other two groups, $F(2, 473) = 8.66, p = .000$. Because the familism scores varied across the five samples and across the two occupation groups used in this study, two-way analyses of variance were conducted to compare the three risk groups on familism while controlling for cultural and occupational differences. Neither of the two interactions (Sample × Risk Group or Occupation × Risk Group) was statistically significant. Thus, the results were the same: Respondents who reported they had had multiple partners during the preceding 6 months were significantly less family allocentric than were those who reported not being sexually active or having just one regular partner during that period of time.

Because of the lack of differences between the medium- and high-risk groups on allocentric attitudes, the two groups were then merged for further analyses. Our main concern here was to examine whether the associations between familism and the General Index of Perceived Vulnerability to HIV/AIDS differed across the low- ($n = 348$) and high-risk ($n = 132$) groups. Using the generalized linear regression model with identity link function, the results revealed that there was a significant interaction between risk group and familism on the General Index of Perceived Vulnerability to HIV/AIDS, $Wald (1) = 8.90, p = .003$. Indeed, a closer look at the results showed that for the low-risk group, the correlation between familism and the General Index of Perceived Vulnerability of HIV/AIDS was negative ($r = -.13, p = .013$), whereas for the high-risk group, the correlation between the two variables was positive ($r = .16, p = .07$). (The two correlations differed at $p = .005$.)
Our final analysis examined the extent to which this configuration of Eastern and Central European countries (Estonia, Georgia, Hungary, Poland, and Russia) as well as the occupation of our respondents (medical and business people) could be said to moderate the association of family-related allocentric attitudes with HIV risk sexual behavior and perceptions of vulnerability to HIV/AIDS. To achieve this goal, a set of generalized linear regression analyses as well as analyses of variance was conducted examining the relationship of familism with riskier sexual behavior and perceptions of vulnerability to HIV/AIDS adding country and occupation as categorical variables to the analyses. With respect to the items concerning sexual behavior and perceived vulnerability to HIV/AIDS reported in this article, no significant interaction was found.

DISCUSSION

The HIV/AIDS epidemic has challenged psychologists to find those personality variables most useful in understanding and predicting individuals’ HIV risk behavior. In their review of studies on personality characteristics and HIV risk behavior, Costa and colleagues (1998) concluded that the Big Five personality traits neuroticism (high) and conscientiousness (low) are often linked to HIV risk behavior. A recent study by the same team (Trobst et al., 2000) showed that the perceived risk of HIV infection among high-risk individuals is also related to another personality trait, openness to experience, with those denying the risk of infection scoring lower on this personality disposition.

The analyses reported in this study examined the role of allocentric attitudes in describing sexual behavior and perceptions of vulnerability to AIDS/HIV among business people and medics from five Central and Eastern European countries. Most countries in this region have seen a rise of the HIV/AIDS epidemic during the past decade (Joint United Nations Programme on HIV/AIDS, 2000b; see also Danziger, 1996) that has accompanied turbulent years of rapid economic, political, and social changes (see Murrell, 1996, for an overview). The results of our study show that allocentric attitudes may indeed provide some contribution to the understanding and (hopefully) prediction of HIV risk sexual behavior. First, as we hypothesized, respondents scoring high on family-related allocentrism were more conservative in their sexual behavior—they were less likely to report multiple partnerships in the preceding 1 week, 1 month, and 6 months; they were more likely to believe they have known the HIV status of all their partners at the time of the intercourse; and they were less likely to report having had an STD in the past. Adding country and occupation as categorical variables to the analyses, we found no significant interaction across familism for the reported levels of sexual behavior and risk vulnerability. Therefore, we may conclude that in general, despite considerable differences between the five samples in terms of their cultural context (as well as in their scores of familism), the associations of family-related allocentrism with sexual behavior and perceived risk to HIV/AIDS reported in this study are valid across all five samples. The same can be said about the two different occupation groups examined in this study.

As hypothesized, those respondents who answered that they have known the HIV status of all of their partners at the time of intercourse scored significantly higher in familism. At the same time, the familism scores did not differentiate between those respondents who
reported having asked versus having not asked their partners if they have been HIV tested. On the basis of this result, one may speculate that people high in familism often simply assume that their partners are not HIV infectious—without asking them whether they have been tested. A certain parallel can be drawn with the findings of Trobst and colleagues (2000), who found that low openness is associated with the denial of risk of infection. Similarly, we assumed that those high in familism would feel they are at a lower risk of catching HIV/AIDS. Accordingly, our second set of analyses concerned the associations between the family-related allocentric attitudes and perceptions of vulnerability of HIV/AIDS. Contrary to our expectations, we could not find any correlations between the General Index of Perceived Vulnerability to HIV/AIDS and family-related allocentric attitudes. If we analyzed the data at the single-item level, we found that regardless of the number of sexual partners in the preceding 6 months, respondents scoring high in familism believed they had not had sex with anyone who could possibly have put them at risk for contracting the virus. One possible interpretation to such a result is that people high in familism are more selective in choosing their partners—they seem to have sex with people they know or at least trust to not infect them with the virus. This speculation is supported by the finding that familists were also less likely to report having had an STD in the past.

Significant differences in family allocentrism scores were also evident between those classified as high- versus low-risk, with the low-risk group obtaining higher scores than did the other two groups on familism. An examination of the interaction between family allocentric attitudes, perceived exposure to HIV, and actual risk behavior using this classification led to an interesting observation. Namely, the direction of the relationship between familism and perceived vulnerability to HIV/AIDS differed across low- and high-risk groups, being positive among high-risk respondents and negative among low-risk respondents. We believe that these differences underline the importance of taking into account individuals’ previous HIV risk behavior while trying to explain and predict their perceptions of vulnerability to HIV/AIDS from personality attributes and attitudes.

While interpreting the findings, a number of limitations in this study should be taken into consideration. First, HIV risk behavior was assessed with a relatively small number of single items. Future research would benefit from including scales measuring respondents’ self-perception of safe-sex communication (cf. Thompson, Geher, Stevens, Stem, & Lintz, 2001) as well as other indicators such as age on first having sex, use of alcohol, and residential locus that have been identified as significant predictors of risky sexual practices in earlier research (Langer, Warheit, & McDonald, 2001). Another limitation to this study is the selection of the participants only from two high-risk groups—medical workers and business people. Future studies should explore to what extent the current findings can be generalized to other groups as well as to the general population.

CONCLUSIONS

At present, the number of HIV/AIDS cases in Central and Eastern Europe is not large—at least when compared with levels of infection in, for example, sub-Saharan Africa where 3.5 million people were infected last year alone (Walker, Worobey, Rambaut, Holmes, & Pybus, 2003). As a consequence, it should still be possible to limit the size of the epidemic in this region (Kalichman et al., 2000). We believe our findings emphasize the need to develop dynamic intervention programs targeted toward the psychological profile of high-risk audiences (Donohew et al., 2000), which may involve a full recognition of various individual-
level factors such as allocentric attitudes among others. The importance of family-related allocentrism in this regard is particularly interesting while taking into account the fact that the variability of allocentric beliefs is determined both by general (personality trait like) and specific (cultural-situational) factors (Realo et al., 1997). In other words, whereas allocentric attitudes have their roots in relatively stable personality traits (openness to experience and agreeableness), the strength of the allocentric attitudes of individuals also depends on various environmental, demographic, and social demands and the cultural tradition of the group to which they belong. Therefore, we believe that successful control of HIV risk behavior requires several kinds of interventions that are “tailored to the basic tendencies of the individual” (Trobst et al., 2000, p. 1250) as well as to other individual-level variables such as allocentric attitudes that are modifiable by a wide range of external influences.

NOTES

1. The number of participants may vary slightly due to missing data.
2. We transformed the raw allocentrism data (21 items) to z scores separately for each of the five samples and calculated the Family subscale (defined as a sum score of the items divided by seven) using the standardized data set. In most cases, the relationships of standardized familism with indices of sexual behavior and perceived vulnerability to HIV/AIDS were close to the results using the unstandardized raw data. All reported correlations replicated the findings from the unstandardized data set.
3. Those respondents who reported having never had sex in their life (n = 23, 5 males and 18 females) were excluded from this analysis.
4. The Wald statistic is a test of significance of the regression coefficient; it is based on the asymptotic normality property of maximum likelihood estimates and is tested against the chi-square distribution (StatSoft, Inc., 1999).

REFERENCES

Anu Realo received her Ph.D. in psychology from the University of Tartu (Estonia). From 2001 to 2002, she worked as a research fellow at the University of Leuven (Belgium). As of September 2003, she is a senior researcher in personality psychology at the University of Tartu. Her research focuses on issues related to similarities and differences in individual psychological functioning in various cultural settings. More specifically, her research interests concern individualism-collectivism as well as individual differences in basic personality traits and emotions.

Robin Goodwin received his Ph.D. in social psychology from the University of Kent at Canterbury (England). He has previously taught at Keele and Bristol Universities in the United Kingdom and as of October 2003, is a professor of psychology in the Department of Human Sciences at Brunel University (London). His research focuses on the cross-cultural analysis of personal relationships, and he currently leads a multinational team on a European Union (INTAS) project on HIV/AIDS in Russia, Georgia, and the Ukraine.