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Predicting safe sex practices from gender-related interpersonal variables

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ABSTRACT

This study investigated whether safe sex practices, including condom use and partner communication, may be predicted from the interpersonal traits of agency, unmitigated agency, communion, and unmitigated communion. Participants were 375 college students (77% women, 23% men), who completed an online questionnaire assessing the variables of interest. Hierarchical regression analyses revealed that high-agency individuals employed greater safe sex practices ($p = .001$) and had greater communication with their partners about safe sex ($p < .001$) than low-agency individuals, whereas high-unmitigated agency individuals employed fewer safe sex practices ($p = .009$) and used condoms less often ($p = .017$) than low-unmitigated agency individuals. Furthermore, high-communion individuals had better partner communication about safe sex ($p = .013$) than low-communion individuals. These findings are consistent with past research showing the positive impact of agency and communion, as well as negative impact of unmitigated agency, on risky health behaviors.

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Safe sex practices; gender differences; personality; communion; agency

Introduction

Over the last several decades, there has been a major shift in the trends involving mortality and morbidity. In particular, the illnesses that are making people sick and subsequently killing them are no longer infectious diseases, but are now primarily diseases involving lifestyle choices and health behaviors. Such behaviors involve making healthy food choices, maintaining an active lifestyle, and practicing safe sex habits (Arias, 2003). With this in mind, an important issue to address is whether or not factors can be identified that make individuals more or less prone to choosing healthy lifestyles.

Gender-related traits and poor lifestyle choices

The existing research literature surrounding the gender-related traits of agency and communion, as well as their unmitigated counterparts, provides one starting point for elucidating possible factors that predispose people to make these poor lifestyle choices.

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Agency refers to one's desire to be independent and achieve personal accomplishments, unmitigated agency (UA) refers to excessive agency whereby one is selfish and avoidant, communion refers to one's desire to form and maintain supportive interpersonal relationships, and unmitigated communion (UC) refers to excessive communion whereby one neglects their own needs and lacks self-identity. A review of past research revealed that men tend to be higher in agency and UA than women, and that women tend to be higher in communion and UC than men (Helgeson, 1994).

The unmitigated forms of agency and communion have predicted poorer physical and mental adjustment to various health problems (Buss, 1990; Fritz, 2000; Helgeson, 1993; Piro, Zeldow, Knight, Mytko, & Gradishar, 2001; Trudeau, Danoff-Burg, Revenson, & Paget, 2003). In one study, for example, Fritz (2000) examined the relations of these gender-related personality traits to health variables, both cross-sectionally and longitudinally, in a sample of 65 first-time coronary patients during hospitalization and four months following hospital discharge. The results of this study demonstrated that agency was associated with enhanced physical and mental functioning, behavioral adjustment, and psychological well-being; unfortunately, this study did not assess UA. Communion was positively related to well-being, whereas UC was positively related to depression and anxiety and negatively related to mental functioning. These results demonstrate that UC has the ability to predict a host of negative physical and psychological outcomes, while communion in its normal, mitigated form, is predictive of more positive adjustment. One reason for the poorer adjustment of UC individuals is their propensity to help others but lack of willingness to receive support in return (Fritz & Helgeson, 1998; Helgeson & Fritz, 2000). Regarding agency, the mitigated form is predictive of positive adjustment due to these individuals' motivation to protect themselves from harm, but UA individuals would likely lack any supportive network due to their extreme focus on themselves.

The unmitigated forms of agency and communion have also predicted greater risk-taking behaviors that result in poor health outcomes. For example, in a study investigating drug and alcohol usage, UA was correlated positively with use of alcohol, mind-altering drugs, and tranquilizers (Snell, Belk, & Hawkins, 1987). For men using tranquilizers, this last finding was especially true when the participants were under stress. This pattern of results suggests that the association between UA, while traditionally considered harmful in and of itself, is especially harmful when paired with stress. In another study, UA was correlated positively with various acting-out behaviors that included reckless driving, poor eating habits, and drug use (Danoff-Burg, Mosher, & Grant, 2006). Notably, these effects emerged while controlling for the effects of gender, as well as each of the other three traits under investigation.

Personality and safe sex practices

Past research on the relationship between personality and safe sex behaviors has focused on the big-five personality traits and on general sensation-seeking and impulsivity tendencies. Regarding the former, high levels of neuroticism have been associated with riskier sexual behavior, whereas high levels of conscientiousness have been associated with safer sexual behavior (Hagger-Johnson, Bewick, Conner, O'Connor, & Shickle, 2011; Hoyle, Fejfar, & Miller, 2000; Ingledew & Ferguson, 2007; Trobst, Herbst, Masters, & Costa, 2002; Zietsch, Verweij, Bailey, Wright, & Martin, 2010). Regarding

the latter, sensation seeking and impulsivity have been associated with risky sexual behavior, including increased number of sexual partners and decreased use of condoms (Fulton, Marcus, & Zeigler-Hill, 2014; Hoyle et al., 2000; McCoul, 2001; Rucevic, 2010; Shuper, Joharchi, & Rehm, 2014; Turchik, Garske, Probst, & Irvin, 2010; Zapolski, Cyders, & Smith, 2009; Zietsch et al., 2010; Zimmerman et al., 2007). Taken as a whole, this research demonstrates that personality variables play a large role in predicting safe sex practices.

To date, only two studies have investigated whether the gender-related personality traits of agency, communion, UA, and UC predict safe sex practices. In the first study, Mosher and Danoff-Burg (2005) found that high UA, low communion, and low UC were predictive of greater willingness to engage in casual sex. Unfortunately, this study did not assess condom use or other safe sex practices. In the second study, Nagurney and Bagwell (2009) found that men and high-UA individuals reported having a greater number of sexual partners during the past six months, compared to women and low UA individuals, respectively. Furthermore, when under high levels of stress, UC was associated with using less safe sex practices. Unfortunately, safe sex practices were assessed with only a single item asking participants for a Likert rating (from never to always) of how often they participated in safe sex practices in the past six months. Moreover, this study did not account for relationship status. For instance, people who are in long-term committed relationships may not partake in such safe sex practices as condom use if they have already undergone testing and know that there is no risk.

Purpose of the current study

The current study will expand upon Nagurney and Bagwell's (2009) study by using an established and reliable measure of safe sex practices (that includes separate assessments that are specific to condom use and partner communication) and by accounting for both gender and relationship status. Consistent with the past research just reviewed, we hypothesize the predictions below.

Regarding gender differences, we hypothesize that men will be higher than women in agency and UA, whereas women will be higher than men in communion and UC, as found in a research review by Helgeson (1994). Furthermore, we hypothesize that women will partake in more safe sex practices than men, consistent with work by Nagurney and Bagwell (2009).

Regarding relationship-status differences, we hypothesize that those individuals who are in a committed relationship will be higher in communion and lower in UA than those individuals who are only casually dating. These hypotheses derive from past research showing that communion is associated with motivation to pursue and maintain positive and supportive long-term relationships, and that UA is associated with selfish and avoidant behaviors that are not conducive to successful long-term relationships (Helgeson, 1994). Furthermore, we hypothesize that those individuals who are in a committed relationship will have better communication with their partner than those individuals who are only casually dating. We make no directional predictions about condom use, given that some of those in committed relationships use condoms either as a form of birth control or to prevent transmission of a known STI, but others may not use condoms if they use other methods of birth control and have no STIs.

Regarding the overarching goal of predicting safe sex practices from personality, after controlling for gender and relationship status, we hypothesize that UA will be associated with lower safe sex practices including less frequent condom use and poorer partner communication, consistent with past research assessing personality differences in safe sexual behaviors (Mosher & Danoff-Burg, 2005; Nagurney & Bagwell, 2009), as well as other research revealing that UA is associated with greater risk taking and such unhealthy behaviors as drug use (Danoff-Burg et al., 2006; Snell et al., 1987). Furthermore, we hypothesize that UC, because of its focus on more one-sided relationships, should be associated with poorer communication such as simply going along with whatever one's partner prefers in a sexual encounter. Finally, we hypothesize that agency and communion will be associated with greater safe sex practices including more frequent condom use and better partner communication, given that these two traits are associated with healthier lifestyle choices and better physical and mental well-being than their unmitigated counterparts (Fritz, 2000; Helgeson, 1993, 1994).

Method

Participants

This study's participants were 375 students (77% women, 23% men) enrolled in undergraduate psychology courses at a large university in the southwestern region of the United States. Their ages ranged from 18 to 47 years ($M = 21.22$, $SD = 3.66$). Based on self-reported ethnicity, 49% were Caucasian, 33% were Hispanic or Latino, 10% were African-American, 6% were Asian American, and 2% were of another ethnicity. Based on self-reported relationship status, 30% were single and not currently dating, 21% were casually dating, and 49% were in a committed relationship. All participants received a small amount of course extra credit in exchange for completing this study.

Materials and procedure

Participants completed an anonymous online questionnaire with demographic questions and the followings self-report inventories: *Safe Sex Behavior Questionnaire* (SSBQ; DiIorio, Parsons, Lehr, Adame, & Carlone, 1992), *Personal Attributes Questionnaire* (PAQ; Spence, Helmreich, & Holahan, 1979), and *Revised Unmitigated Communion Scale* (RUCS; Fritz & Helgeson, 1998).

The SSBQ includes 24 statements concerning sex practices, to which participants select a Likert rating that represents the frequency that they partake in those practices. Example items are, "If I know an encounter may lead to sexual intercourse, I have a mental plan to practice safer sex" and "I drink alcoholic beverages prior to or during sexual intercourse." Seven items are specific to condom use (e.g. "I insist on condom use when I have sexual intercourse"), and six items are specific to partner communication about topics relevant to safe sex (e.g. "I ask potential sexual partners about their sexual histories"). Research reveals this scale to be internally consistent with Cronbach's alpha of .82 for the whole scale, .77 for the condom use subscale, and .75 for the partner communication subscale (Salazar, 2013).

The PAQ includes 24 sets of contradictory statements, for which participants select a response indicating where they fall on the scale between the two extremes. Eight are

specific to agency (e.g. “Not at all independent ... Very independent”), eight are specific to UA (e.g. “Not at all arrogant ... Very arrogant”), and eight are specific to communion (e.g. “Not at all helpful to others ... Very helpful to others”). Research reveals this scale to be internally consistent with Cronbach’s alpha of .76 for the agency subscale, .72 for the UA subscale, and .76 for the communion subscale (Thornton & Nagurney, 2011).

The RUCS includes nine statements, to which participants select a Likert rating that represents their degree of agreement with those statements. Example items are, “I always place the needs of others above my own” and “For me to be happy, I need others to be happy.” Research reveals this scale to be internally consistent with Cronbach’s alpha of .74 (Thornton & Nagurney, 2011).

Results

Gender differences

Two multivariate analysis of variances (MANOVAs) were conducted to assess gender differences. The first analysis assessed differences in the interpersonal variables (communion, UC, agency, and UA), and the second analysis assessed differences in safe sex practices (total safe sex practices, condom use, and partner communication about safe sex). Regarding the interpersonal variables, women scored significantly higher than men in both communion and UC, whereas men scored significantly higher than women in both agency and UA (see Table 1). Regarding safe sex practices, women scored significantly higher than men in overall safe sex practices and in partner communication about safe sex. No significant gender differences in condom use were found.

Relationship-status differences

Two MANOVAs were conducted to assess relationship-status differences. The first analysis assessed differences in the interpersonal variables (communion, UC, agency, and UA), and the second analysis assessed differences in safe sex practices (total safe sex practices, condom use, and partner communication about safe sex). Regarding the interpersonal variables, the only significant differences were in level of communion (see Table 2). Tukey post-hoc tests revealed that people who were in a committed relationship scored higher in communion than those who were not dating ($p = .04$) and those who were

Table 1. MANOVA results on gender differences.

Variable	Men		Women		F	p	η_p^2
	M	SD	M	SD			
Interpersonal variables							
Communion	29.46	4.54	32.39	3.98	31.15	.000***	.077
Unmitigated communion	22.58	3.33	24.57	3.49	21.93	.000***	.056
Agency	28.85	4.79	27.31	4.16	8.39	.004**	.022
Unmitigated agency	20.96	5.30	19.07	4.36	11.24	.001***	.029
Safe sex variables							
Total safe sex practices	66.60	10.26	71.50	10.45	14.60	.000***	.038
Condom use	19.48	5.04	18.76	5.45	1.21	.272	.003
Partner communication	14.66	3.50	16.70	4.21	16.59	.000***	.043

Note: Degrees of freedom for all tests: 1, 373.

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

Table 2. MANOVA results on relationship-status differences.

Variable	Not dating		Casually dating		In committed relationship		F	p	η_p^2
	M	SD	M	SD	M	SD			
Interpersonal variables									
Communion	31.08	4.42	30.94	4.42	32.31	4.04	4.34	.014*	.023
Unmitigated communion	24.17	3.45	23.66	3.64	24.29	3.58	0.88	.414	.005
Agency	26.87	4.90	27.78	4.35	28.09	3.94	2.80	.062	.015
Unmitigated agency	19.31	4.84	20.39	4.93	19.22	4.37	1.88	.154	.010
Safe sex variables									
Total safe sex practices	72.77	10.62	69.09	10.14	69.51	10.59	4.13	.017*	.022
Condom use	21.75	4.70	18.99	4.68	17.16	5.30	29.31	.000***	.136
Partner communication	15.18	4.10	15.56	4.08	17.18	4.01	9.89	.000***	.050

Note: Degrees of freedom for all tests: 2, 372.

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

casually dating ($p = .04$). Regarding safe sex practices, significant differences emerged for all safe sex variables. Tukey post-hoc tests revealed that people who were in a committed relationship (a) scored higher in partner communication about safe sex than those who were not dating ($p < .001$) and those who were casually dating ($p = .009$), (b) scored lower in condom use than those who were not dating ($p < .001$) and those who were casually dating ($p = .02$), and scored lower in total safe sex practices than those who were not dating ($p = .03$).

Predictions from interpersonal variables

Three hierarchical regression analyses were conducted to assess whether each of the three safe sex variables (total safe sex practices, condom use, and partner communication about safe sex) may be predicted from the interpersonal variables (communion, UC, agency, and UA). Given that gender and relationship status were significantly related to many of the independent and dependent variables, these two demographic variables were entered into the first step of the regression analyses. The four interpersonal variables were then entered into the second step of these analyses. Furthermore, all interpersonal variables were mean-centered, which effectively reduced any potential effects of multicollinearity; VIF values were all appropriately low and ranged from 1.07 to 1.47.

The full models for all three regression analyses are presented in Table 3. Agency was a significant predictor of both total safe sex practices and partner communication about safe sex, such that people who were higher in agency employed greater safe sex practices and had greater communication with their partners about topics relevant to safe sex. UA was a significant predictor of both total safe sex practices and condom use, such that people who were higher in UA employed fewer safe sex practices and used condoms less often. Communion was a significant predictor of partner communication, whereby people who were higher in communion had better partner communication about safe sex. UC was not a significant predictor of any of the safe sex variables.

Discussion

The results of this study supported our first set of hypotheses concerning gender differences in the personality traits and safe sex practices. Agency and UA levels were higher

Table 3. Regression analyses predicting safe sex practices.

Variable	β	t	p
Total safe sex practices			
Gender	.19	3.67	.000***
Relationship status	-.18	-3.57	.000***
Communion	.09	1.53	.128
Unmitigated communion	-.01	-0.34	.812
Agency	.18	3.50	.001***
Unmitigated agency	-.14	-2.63	.009**
Condom use			
Gender	-.03	-0.62	.535
Relationship status	-.37	-7.65	.000***
Communion	.02	0.39	.695
Unmitigated communion	-.04	-0.77	.439
Agency	.05	0.96	.340
Unmitigated agency	-.13	-2.39	.017*
Partner communication			
Gender	.18	3.47	.001***
Relationship status	.16	3.14	.002**
Communion	.15	2.51	.013*
Unmitigated communion	.01	0.04	.967
Agency	.21	4.16	.000***
Unmitigated agency	-.02	-0.35	.724

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

in men than women, and communion and UC levels were higher in women than men. These findings are consistent with those found by Helgeson (1994) in a comprehensive review of past research, as well as the results of more recent research (Nagurney & Bagwell, 2009). Men and women also differed in their safe sex practices, with women exhibiting greater overall safe sex practices than men, particularly in the area of partner communication. The latter finding may be related to the gender-related personality differences, considering that women are higher in communion, which is associated with greater partner communication. As to other safe sex practices, past research reveals that compared to men, women tend to be more discriminating at choosing sex partners, place more value on delayed protected sex than immediate sexual gratification, and have fewer total sex partners (Buss & Schmitt, 1993; Johnson & Bruner, 2013; Lawyer, Williams, Prihodova, Rollins, & Lester, 2010; Nagurney & Bagwell, 2009; Saad, Eba, & Sejean, 2009).

Partial support was achieved for our second set of hypotheses concerning relationship-status differences in the personality traits and safe sex practices. As expected, compared to those individuals who are only casually dating, individuals who are in a committed relationship scored higher in communion that is associated with motivation to pursue and maintain positive and supportive long-term relationships (Helgeson, 1994), as well as in partner communication about safe sex practices. Both of these constructs, communion and partner communication about safe sex, emphasize an openness and communication that may contribute to a stronger committed relationship. Regarding other safe sex practices, largely related to condom use but including other behaviors such as having sex after consuming alcohol or other drugs, individuals who are in a committed relationship actually scored lower on these safe sex practices than those individuals who are only casually dating. This finding is not surprising, however, when considering that people in committed monogamous relationships may rely on birth control pills over condoms if they have undergone testing and have discovered that neither partner has any sexually transmitted infections. The only unexpected finding was that these two groups did not

differ in levels of UA, which involves selfish and avoidant behaviors that are not conducive to successful committed relationships (Helgeson, 1994). Although the mean UA score for those in a committed relationship was indeed lower than the mean UA scores for those who were either not dating or casually dating, these means did not statistically differ ($p = .15$). Unfortunately, the current study did not account for relationship length, such that some of those individuals who were in a committed relationship may have just recently committed to their partner. It is expected that high-UA individuals would experience difficulty maintaining longer relationships.

Partial support was also achieved for the final set of hypotheses concerning the relationship between personality and safe sex after controlling for gender and relationship status. In particular, communion and agency were positively associated with total safe sex practices and with partner communication about safe sex practices, findings that were expected on the basis of past research showing that these two personality traits are associated with healthier lifestyle choices and better physical and mental well-being than their unmitigated counterparts (Fritz, 2000; Helgeson, 1993, 1994). In addition, UA was associated with less frequent condom use and with poorer partner communication about safe sex practices. These findings are consistent with past research showing that UA is associated with unhealthy lifestyle choices and greater risk taking (Danoff-Burg et al., 2006; Mosher & Danoff-Burg, 2005; Nagurney & Bagwell, 2009; Snell et al., 1987). The only unexpected finding here was that UC was not related to safe sex practices. The assumption was that because high-UC individuals are excessively focused on the needs of their partners to the point that their own needs are ignored (Helgeson, 1994), they would be more likely to simply go along with whatever one's partner prefers in a sexual encounter, including partaking in risky sexual behaviors and not communicating for themselves. Perhaps, there were some floor effects and insufficient variability in terms of UC levels with this particular sample that may have contributed to the insignificant relationship between UC and safe sex practices in this study.

Although this study was a thoughtful research investigation that yielded interesting findings that are supported by past research, there were a few limitations in this study. The first limitation stems from the method by which the data were gathered. Namely, self-report questionnaires may be restricted by social desirability bias, whereby participants want to show their best side (i.e. the behavior that the participant feels society would be most happy knowing). However, given the nature of the research questions, survey methodology is unavoidable. The second limitation concerns the sample used to represent safe sex practices. The sample was comprised of psychology students who were offered extra credit at a southwestern university of the United States. The fact that the participants were all psychology students may have affected the conclusion of the study, in that psychology students may be more disciplined with their agency because they have a more developed idea of their own place and influence with the world. Moreover, American cultural upbringing would most likely facilitate a different response to a safe sex study than a European or Asian culture. Each culture may have a different set of pressures specifically pertaining to the way each gender should handle the ideas of agency and communion. The third limitation of the current study is that the sample included only 86 men. In future research, a sample with a much larger number of men would allow researchers to specifically assess how gender interacts with the relationship and personality variables in contributing to safe sex practices.

Before generalizing the findings of this study to all, this study should be replicated with non-college populations and in other cultures. Related to culture is the variable of gay and lesbian relationships, which needs to be addressed in future research, as the current study did not assess sexual orientation. In addition, future research should investigate these research questions from a developmental perspective, exploring whether the safe sex behaviors change over time, from the period of first sexual activity through adulthood. Given that personality traits are relatively stable, we might predict that the behaviors would remain unchanged and that consistent with the findings of the current study, safe sex practices would be greatest in individuals who are high in communion and agency, which contribute to physically and mentally healthy committed relationships.

Disclosure statement

No potential conflict of interest was reported by the authors.

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