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Cross-Lagged Relations Between Sexual Attitudes, Perception of Love and Sex, and Young Adults' Relationship Status: A Two-Wave Study

Abstract: The purpose of this two-wave longitudinal study was to investigate cross-lagged relations between sexual attitudes, perception of love and sex, and young adults' relationship status over a period of one year. The current study tested two hypotheses: the first hypothesis assuming that sexual attitudes, perception of love and sex can be predictive of relationship status after a one-year interval; and the second hypothesis assuming that relationship status at T1 can be predictive of sexual attitudes and perception of love and sex after a one-year interval. Results from 117 Polish young adults (94 females and 23 males) aged 20–33 ($M = 21.42$, $SD = 1.79$) indicated that the conviction that sex is no longer as much a part of the relationship as it used to be (i.e., Sex is Declining scale) measured in the first assessment was a significant predictor of relationship status after a one-year interval. Furthermore, sexual attitudes and perception of love and sex at T1 were found to be predictive of sexual attitudes and perception of love and sex at T2. In addition, gender at T1 was predictive of instrumentality at T2, while being female at T1 related to higher instrumentality at T2.

Keywords: Perception of love and sex, Sexual attitudes, Single, Partnered, Young Adults

Introduction

Given the changing relational norms in young adulthood, including the increase in singlehood and the role of romantic relationships in predicting personal well-being (Conger, Cui, Bryant, & Elder, 2000), researching pathways toward adulthood and couple formation has become one of the priorities for social scientists (Willoughby, 2014). Moreover, as other researchers indicated (e.g., Willoughby & Carroll, 2010), dating and other relationship variables should also be the focus of future studies looking at behavior and couple formation attitudes. As a result, the current study focuses on the link between young adults' relationship status (i.e., being single vs. being in a nonmarital relationship) and sexual attitudes and perception of love and sex. The subject of the current investigation is sexual attitudes and perception of love and sex attitudes since beliefs about romantic relationships affect people's expectations and behaviors when they become involved in relationships with a romantic potential

(Baucom & Epstein, 1990). Furthermore, sexual attitudes and love attitudes are used to explore an individual's attitudes and values about close, personal relationships (Adler & Hendrick, 1991). As a result, the current study assumed that the way in which young adults think about sex and love, as a part of a current or a potential relationship, may affect their decisions and behaviors in the domain of romantic and sexual relationships. As a consequence, in the current study, sexual attitudes and the way of perception of love and sex in a relationship were expected to be related to young adults' current relationship status.

Sexual Attitudes

Sexual attitudes are a subject widely investigated in samples of adolescent and young adults (Le Gall, Mullet, & Rivière Shafiqhi, 2002). In many studies such aspects of sexual attitudes have been examined as attitudes toward sexual practices, sexual permissiveness, sexual desire, premarital sexuality, or contraception (Hendrick,

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Hendrick, & Slapion-Foote, 1985; Le Gall et al., 2002). Sexual attitudes as a multifaceted domain have been studied, for example with the use of the multidimensional scale designed by Hendrick and Hendrick (1987). This scale measures the constellation of the following four sexual attitudes: (1) permissiveness (casual, guiltless sex), which typically concerns how far people will go sexually (Hendrick et al., 1985), (2) attitudes toward sexual practices (sexual responsibility) such as use of the birth control, sex education, acceptability of sexual behaviors such as masturbation (Hendrick & Hendrick, 1987); (3) communion (idealistic sexuality), i.e., attitudes toward sex concentrating on sharing, involvement, and more than an element of idealism (Hendrick & Hendrick, 1987), and (4) instrumentality (utilitarian, self-absorbed sexuality), which refers to attitudes toward sex understood as utilitarian and genitally focused (Hendrick & Hendrick, 1987).

Sexual attitudes are recognized to affect subsequent sexual behaviors. For example, one of the basic beliefs concerning marital and long-term, committed romantic relationships is the belief that these relationships are characterized by sexual exclusiveness (Qaqiesh & Regan, 2004). As a result, people who hold this belief are presumed to be sexually active within a given relationship (Qaqiesh & Regan, 2004). Similarly, beliefs concerning one of the aspects of sexuality, i.e., sexual desire, directly influence sexual behaviors and individuals' relationships with sexual partners (Regan, 1998a). Sexual attitudes were also found to predict distress caused by sexual and emotional infidelity (Cann, Mangum, & Wells 2001). Sexual attitudes have been also found to be strongly related to love status, i.e., individuals who were in love were found to be less permissive and instrumental, and more oriented to communion and sexual practices than individuals who were not in love (Hendrick & Hendrick, 1987). What is important to note, negative sexual attitudes are attached to single individuals. For example, Conley and Collins (2002) found that single persons were perceived to be more risky, less responsible and more promiscuous compared to their partnered counterparts, although partnered individuals are in fact less likely to practice safe sex and thus face a greater risk of contracting HIV (Misovich, Fisher, & Fisher, 1997).

Perception of Love and Sex

Romantic love is considered to be of special importance in interpersonal relationships as it is associated with many events of individual and interpersonal nature (Regan, 1998b). Sexuality is recognized to play an important role in dating relationships, and, for instance, sexual activity is perceived as an integral example of the development stage of a relationship (Regan, 2000). From the perspective of social sciences, the relationship between love and sexuality can be divided into five approaches as Aron and Aron (1991) proposed. These approaches are as follows: (1) theories of sexuality that ignore love or consider love as a result of sexuality; (2) theories that emphasize sexuality, considering love to be a minor or subservient part of sexuality; (3) theories considering love

and sexuality to be separated; (4) theories that emphasize love, considering sexuality to be a minor or subservient part of love; and (5) theories ignoring sexuality or considering sexuality to be a result of love.

Alongside the scholar inquiry into the relationship between love and sex, people in their romantic relationships link love with sex (Hendrick & Hendrick, 2002). Hendrick and Hendrick (2002) in their study on the development of Perception of Love and Sex Scale distinguished four ways in which lay people typically link love with sex. These ways are as follows: (1) Love is Most Important, i.e., love is the primary entity, (2) Sex Demonstrates Love, i.e. sex is an important element of a romantic relationship but in some ways subsumed by love, (3) Love Comes Before Sex, i.e., love comes first, and (4) Sex is Declining, i.e., sex is no longer as much a part of the relationship. These subscales showed significant associations with relationship variables such as love and sex attitudes, relationship satisfaction, and romantic beliefs (Hendrick & Hendrick, 2002). Therefore, it is reasonable to assume that differences in the perception of love and sex may – similarly to individual and relational differences in the meaning of love – affect the way in which people conduct and construe their romantic relationships (Levine, Strzyzewski Aune, & Park, 2006), and as a result be related to relationship status. For example, in a Polish study, Eros love style and belief in importance of passionate love for entering into marriage were significant predictors of young adults' relationships (Adamczyk, 2014).

The Current Study

The present study is part of a larger longitudinal study aimed at investigating cross-lagged relations between marital, love and sexual attitudes, and young adults' relationship status. Results concerning marital and love attitudes were presented in another paper (Adamczyk, in review). Although multiple studies have examined sexual attitudes and perception of love and sex, to date scant research has been conducted to examine whether and how sexual attitudes and perception of love and sex are associated with relationship status in young adulthood. Moreover, to the best of my knowledge, in Poland no existing studies investigated this association.

Due to the lack of previous research in this area in regard to relationship status, the current study was intended to test longitudinal relations between sexual attitudes and perception of love and sex at T1, and relationship status at T2, as well as longitudinal relations between relationship status at T1 and sexual attitudes and perception of love and sex at T2. In line with these two assumed directions between the sexual attitudes and perception of love and sex, and relationship status, two major hypotheses were posted:

- H1. Sexual attitudes and perception of love and sex at T1 will have a cross-lagged effect on relationship status at T2.
- H2. Relationship status at T1 will have a cross-lagged effect on sexual attitudes and perception of love and sex at T2.

Methods

Participants and Procedure

In the current study the inclusion criteria were as follows: (1) being aged 20–40 (defined as young adulthood period), (2) heterosexual, (3) having no children, and (4) fitting into single or partnered status (i.e., being in a non-marital romantic relationship). Being single was defined as “not in a committed relationship for at least 6 or more months, but wanting to become committed in the near future (within the next year or so)” (see Donnelly & Burgess, 2008; Schachner, Shaver, & Gillath, 2008). In turn, partnered status (i.e., steady relationship, cohabiting, engaged, married) was defined as “in a committed relationship for at least 6 or more months, and wanting to be committed in the near future (within the next year or so)” (see Donnelly & Burgess, 2008; Schachner et al., 2008). The criterion of six months was used to distinguish between single and partnered based on prior study performed by Donnelly and Burgess (2008). Regarding this criterion, all participants who were single or were in a non-marital romantic relationship for a period shorter than six months were excluded from further analysis.

The first assessment of variables took place in the period between May and October 2013, and the second assessment took place after one-year interval, that is in the period between May and October 2014. A one-year time span between the two assessments was chosen for the current study due to the fact that most behaviors and decisions in the domain of romantic relationships usually happen over longer periods. Therefore, such a long time perspective was expected to increase the possibility of occurrence of any changes in regard to relationship status. One thousand and two hundred questionnaires were originally distributed. A total of 546 participants returned questionnaires (response rate = a 45.50%). One hundred and fifty two participants were excluded from further analyses due to incomplete data ($n=23$), being married ($n=5$), widowed ($n=1$), divorced ($n=6$), separated ($n=1$), or because their partnered or single status was shorter than the arbitrary criterion of being in a relationship or being single for at least 6 months ($n=116$). This yielded a sample of 394 participants of which 124 participants (31.47%) initially agreed to participate in the second assessment after a one-year interval. From 124 participants who initially agreed to participate in the second assessment, four respondents refused to participate in the second assessment, and three participants changed their single status into a partnered status. Due to the fact that only three individuals had changed their single status to partnered status, they were excluded from further analyses in order to ensure that analyses were performed on data gathered from participants of the same relationship status in both assessments. As a result, the final analyses were performed on a sample of 117 participants. In addition, the performed analyses revealed that single individuals more often resigned from the participation in the in the second assessment than individuals in a relationship (the decrease from 41.20% in the first assessment to 28.20%

in the second assessment). [All details concerning the comparisons in regard to demographic and psychological variables between individuals who participated only in the first assessment and individuals who participated in both assessments are available at e-mail request].

Demographic characteristics of participants who participated in the both assessments are presented in Table 1.

Table 1. General Demographic Data of Participants ($N=117$)

	1st assessment	2nd assessment
<i>Age (20–33 years)</i>		
M (SD)	21.42 (1.79)	22.23 (1.77)
<i>Sex</i>		
Females	94 (80.30%)	94 (80.30%)
Males	23 (19.70%)	23 (19.70%)
<i>Relationship status</i>		
Single individuals	36 (30.80%)	36 (30.80%)
Individuals in relationships	81 (69.20%)	81 (69.20%)
<i>Duration of being single in years</i>		
M (SD)	6.06 (8.57)	7.35 (10.00)
<i>Duration of being in a relationship in years</i>		
M (SD)	2.51 (1.69)	2.87 (1.98)
<i>Educational level</i>		
Student	113 (96.60%)	84 (71.80%)
Non-student	4 (3.40%)	33 (28.20%)

The author distributed the measures to students across different courses with the request to administer the questionnaires to their relatives, friends, and acquaintances. The questionnaire packages were administered in classrooms to groups of 20 to 30 students at a time and participation was voluntary. An explanation of the study's purpose was given along with assurance to students that all information provided would remain confidential. Students who volunteered to participate received extra credit toward their final course grade. This study obtained positive evaluation of the Human Research Ethics Committee affiliated with the Institute of Psychology at Adam Mickiewicz University in Poznań.

Materials

The questionnaire package presented to the study participants was comprised of the following instruments:

Demographic Questionnaire. This questionnaire was designed to obtain general descriptive information about participants' background such as age, gender,

education, and current relationship status and dating status. Relationship status was measured by asking participants “Do you currently have a lifetime partner?” The possible responses were “Yes” and “No”.

The Brief Sexual Attitudes Scale (BSAS; Hendrick, Hendrick, & Reich, 2006) (Polish adaptation – Adamczyk, 2014). The Brief Sexual Attitudes Scale is a 23-item shortened version of the original 43-item Sexual Attitudes Scale (SAS) developed by Hendrick and Hendrick (1987). The SAS was designed to assess multidimensional attitudes toward sex. Similarly to the SAS, the BSAS measures four aspects of sexual attitudes: Permissiveness (casual sexuality), Birth Control – formerly called Sexual Practices in the SAS (responsible, tolerant sexuality), Communion (idealistic sexuality), and Instrumentality (biological, utilitarian sexuality). Respondents are asked to answer each item using a 5-point scale, ranging from strongly agree to strongly disagree. The BSAS is a reliable and valid measure of the four sexual attitudes and has strong psychometric properties (Hendrick et al., 2006). The internal consistency for the subscales in the original study by Hendrick and colleagues (2006) was as follows: $\alpha = .95$, $\alpha = .87$, $\alpha = .79$, $\alpha = .80$ for Permissiveness, Birth Control, Communion, and Instrumentality, respectively. In the present study, in the first assessment the internal consistency for the subscales was the following: $\alpha = .90$, $\alpha = .94$, $\alpha = .78$, $\alpha = .61$ for Permissiveness, Birth Control, Communion, and Instrumentality, respectively. In turn, in the second assessment the internal consistency for the subscales was the following: $\alpha = .92$, $\alpha = .92$, $\alpha = .70$, $\alpha = .71$ for Permissiveness, Birth Control, Communion, and Instrumentality, respectively.

Perception of Love and Sex Scale (PLSS; Hendrick & Hendrick, 2002) (Polish adaptation – Adamczyk, 2014). The PLSS is a 17-item measure of how people view the link between love and sex in their romantic relationships. Respondents are asked to answer each item using a 5-point scale, ranging from strongly agree to strongly disagree. The PLSS consists of four subscales: Love is Most Important, Sex Demonstrates Love, Love Comes Before Sex, and Sex is Declining, with acceptable psychometric properties (Hendrick & Hendrick, 2002). The internal consistency

for the subscales in the original study by Hendrick and Hendrick (2002) was as follows: $\alpha = .67$, $\alpha = .80$, $\alpha = .78$, $\alpha = .62$ for Love is Most Important, Sex Demonstrates Love, Love Comes Before Sex, and Sex is Declining, respectively. In the present study, in the first assessment the internal consistency for the subscales was the following: $\alpha = .71$, $\alpha = .74$, $\alpha = .87$, $\alpha = .66$ for Love is Most Important, Sex Demonstrates Love, Love Comes Before Sex, and Sex is Declining, respectively. In turn, in the second assessment the internal consistency for the subscales was the following: $\alpha = .62$, $\alpha = .71$, $\alpha = .88$, $\alpha = .72$ for Love is Most Important, Sex Demonstrates Love, Love Comes Before Sex, and Sex is Declining, respectively.

Results

Autoregressive, synchronous and cross-lagged correlations between the study variables

In this step of analysis, autoregressive, synchronous and cross-lagged correlations between the continuous study variables were investigated (see Table 2 and Table 3). The times of measurements were coded as 1 and 2; however, in the literature there is a suggestion of using simple coding of the measurement occasions T as $t=0, 1, 2, 3$ etc. (see Hox, 2010).

First, Table 2 demonstrates autoregressive correlations (i.e., the correlations between the same variable measured at T1 and T2) which showed that in the current study there was a strong positive autoregressive correlation of: permissiveness at T1 and T2, birth control at T1 and T2, and love comes before sex at T1 and T2; a moderate positive autoregressive correlations of: communion at T1 and T2, instrumentality at T1 and T2, love is most important at T1 and T2; and a weak positive autoregressive correlation of sex is declining at T1 and T2.

Table 2 also provides important data showing cross-lagged correlations between variables measured at T1 with variables measured at T2, in particular, there was a strong negative cross-lagged correlation between permissiveness at T1 with love comes before sex at T2.

Table 2. Autoregressive and Cross-Lagged Correlations Among Major Variables at T1 and T2

Variables	1 at T2	2 at T2	3 at T2	4 at T2	5 at T2	6 at T2	7 at T2	8 at T2
1 Permissiveness at T1	.79***	.33***	-.03	.33***	-.28**	-.37***	-.62***	.10
2 Birth control at T1	.49***	.77***	.17	.21*	-.13	-.00	-.20*	.09
3 Communion at T1	-.01	.28**	.49***	.02	-.19*	.28**	.06	-.06
4 Instrumentality at T1	.32***	.25**	.13	.51***	-.10	-.19*	-.31**	.07
5 Love is most important at T1	-.17	-.10	-.05	-.16	.47***	.08	.27**	.08
6 Sex demonstrates love at T1	-.12	.19*	.25**	-.13	-.03	.38***	.28**	-.20**
7 Love comes before sex at T1	-.44***	-.07	.00	-.21*	.28**	.31**	.60***	-.04
8 Sex is declining at T1	.19*	.04	-.03	.10	.03	-.26**	-.15	.27**

Note. N = 117 at T1 and 102 at T2; *** $p < .001$, two-tailed; ** $p < .01$, two-tailed; * $p < .05$, two-tailed.

Table 3. Synchronous Correlations Among Major Variables at T1 and T2

Variables	1	2	3	4	5	6	7	8
1 Permissiveness	–	.43*** .41***	-.04 -.08	.33*** .42***	-.31** -.21*	-.24* -.41***	-.60*** -.60***	.33*** .14
2 Birth Control		–	.24** .18*	.21* .19*	-.10 -.09	.13 .08	-.14 -.16	.05 .05
3 Communion			–	.16 -.02	-.09 -.17	.40*** .35***	-.00 .15	-.14 -.10
4 Instrumentality				–	-.24* -.01	-.15 -.14	-.31** -.26**	.14 .25**
5 Love is most important					–	.18* .08	.45*** .32**	-.05 .15
6 Sex demonstrates love						–	.41*** .55***	-.44*** -.29**
7 Love comes before sex							–	-.25** -.11
8 Sex is declining								–

Note. N=117 at T1 and 102 at T2; *** $p < .001$, two-tailed; ** $p < .01$, two-tailed; * $p < .05$, two-tailed.

Table 3, in turn, presents synchronous correlations between variables separately measured within wave 1 and wave 2. Data in Table 3 also confirmed the existence of strong negative correlation between permissiveness and love comes before sex in both waves.

Cross-lagged relations between sexual attitudes at T1, perception of love and sex at T1 and relationship status at T2

In order to test the hypothesis that sexual attitudes and perception of love and sex at T1 will have cross-lagged effects on relationship status at T2, a binary logistic regression analysis with enter method was performed. The

analysis controlled for gender revealed significance of the tested model, $\chi^2(8) = 19.75$, $p = .011$. Detailed results of the binary logistic analysis are provided in Table 4.

The tested model correctly classified 75.20% of participants in comparison to the step zero of the model without predictors. The analysis revealed that among all variables introduced into the model, only one variable was a significant predictor of young adults' relationship status, i.e. Sex is declining representing perception of love and sex. The odd ratio [$Exp(B)$] for Sex is declining (OR = 1.45) is higher than 1. Therefore, this odd ratio indicates that with the increasing score on the Sex is declining scale, the odds of the outcome (i.e., possessing a romantic partner) increase.

Table 4. Results of Logistic Regression Analysis Predicting Relationship Status at T2 from Sexual Attitudes at T1 and Perception of Love and Sex at T1

Variables in the model	B	SE	Wald	df	p	Exp(B)	95% CI for Odds Ratio	
							Lower	Upper
Constant	0.34	2.44	0.02	1	.890	1.40		
Permissiveness	-0.02	0.04	0.21	1	.645	0.98	0.90	1.07
Birth control	-0.09	0.10	0.70	1	.402	0.92	0.75	1.12
Communion	-0.05	0.07	0.54	1	.464	0.95	0.82	1.10
Instrumentality	0.02	0.09	0.07	1	.788	1.02	0.86	1.22
Love is most important	-0.14	0.08	3.12	1	.077	0.87	0.75	1.02
Sex demonstrates love	-0.02	0.10	0.03	1	.865	0.98	0.80	1.20
Love comes before sex	0.05	0.10	0.25	1	.614	1.05	0.87	1.28
Sex is declining	0.37	0.12	10.30	1	.001	1.45	1.16	1.82

Note. $R^2_1 = .09$ (Hosmer & Lemshow), $R^2 = 0.16$ (Cox & Snell), $R^2 = 0.22$ (Nagelkerke). Relationship status: 0 = single status; 1 = partnered status.

Cross-lagged relations between relationship status at T1 and sexual attitudes at T2, perception of love and sex at T2

In order to examine the reversed direction between relationship status at T1 and outcomes at T2, separate hierarchical regression analyses, controlling for gender, predicting sexual attitudes at T2 and perception of love and sex at T2 from sexual attitudes at T1 and perception of love and sex at T1 (Step 1), and from relationship status at T1 and gender at T1 (Step 2) were performed. Results of these analyses are provided in Table 5.

As Table 5 shows, sexual attitudes at T1 consistently appeared to be significant predictors of sexual attitudes at T2. In regard to all sexual attitudes, there was a positive association between sexual attitudes at T1 and T2. Neither gender nor relationship status at T1 was found to be predictive of sexual attitudes at T2, with the exception of instrumentality at T2 which was also predicted by gender at T1. To be precise, being female at T1 was related to higher instrumentality at T2, whereas being male was related to lower instrumentality at T2.

Table 5. Hierarchical Regression Analysis Predicting Sexual Attitudes and Perception of Love and Sex at T2 Using Sexual Attitudes and Perception of Love and Sex at T1 (Step 1), Gender at T1 and Relationship Status at T1 (Step 2)

Outcome: Permissiveness at T2	B	SE	Beta	95% CI	t
<i>Step 1</i>					
Constant	3.95	2.18		-0.36, 8.26	1.82
Permissiveness at T1	0.85	0.06	.79***	0.73, 0.97	13.98
ΔF	$F(1,115) = 195.36, p = .000$				
ΔR^2	0.63				
R^2	0.63				
<i>Step 2</i>					
Constant	5.17	2.29		0.63, 9.71	2.56
Permissiveness at T1	0.87	0.06	.81***	0.74, 0.99	13.70
Gender at T1	-0.24	1.27	-.01	-2.76, 2.28	-0.19
Relationship status at T1	-2.16	1.06	-.12*	-4.26, -0.06	-2.04
ΔF	$F(2,113) = 2.11, p = .126$				
ΔR^2	.01				
R^2	.63				
Outcome: Birth control at T2					
<i>Step 1</i>					
Constant	1.10	0.23		0.65, 1.55	4.83
Birth control at T1	0.64	0.05	.77***	0.54, 0.74	13.03
ΔF	$F(1,115) = 169.88, p = .000$				
ΔR^2	.60				
R^2	.59				
<i>Step 2</i>					
Constant	1.56	0.41		0.74, 2.38	3.77
Birth control at T1	0.64	0.05	.77***	0.54, 0.74	13.02
Gender at T1	-0.31	0.32	-.06	-0.94, 0.33	-0.96
Relationship status at T1	-0.31	0.28	-.07	-0.86, 0.23	-1.14
ΔF	$F(2,113) = 0.93, p = .396$				
ΔR^2	.01				
R^2	.59				

Table 5 cont.

Outcome: Communion at T2	B	SE	Beta	95% CI	t
<i>Step 1</i>					
Constant	5.18	0.72		3.75, 6.61	7.18
Communion at T1	0.43	0.07	.49***	0.29, 0.57	5.99
ΔF	$F(1,115) = 35.86, p = .000$				
ΔR^2	.24				
R^2	.24				
<i>Step 2</i>					
Constant	5.06	1.07		2.93, 7.19	4.71
Communion at T1	0.43	0.07	.49	0.29, 0.58	5.94
Gender at T1	-0.08	0.66	-.01	-1.40, 1.23	-0.13
Relationship status at T1	0.23	0.57	.03	-0.91, 1.36	0.40
ΔF	$F(2,113) = 0.10, p = .906$				
ΔR^2	.00				
R^2	.22				
Outcome: Instrumentality at T2					
<i>Step 1</i>					
Constant	7.02	1.43		4.19, 9.86	4.90
Instrumentality at T1	0.57	0.09	.51***	0.39, 0.74	6.41
ΔF	$F(1,115) = 41.14, p = .000$				
ΔR^2	.26				
R^2	.26				
<i>Step 2</i>					
Constant	5.29	1.58		2.17, 8.42	3.35
Instrumentality at T1	0.60	0.09	.54***	0.43, 0.77	6.96
Gender at T1	1.75	0.60	.23*	0.57, 2.93	2.93
Relationship status at T1	-0.29	0.51	-.05	-1.30, 0.72	-0.57
ΔF	$F(2,113) = 4.93, p = .009$				
ΔR^2	.06				
R^2	.31				
Outcome: Love is most important at T2					
<i>Step 1</i>					
Constant	6.60	0.92		4.78, 8.42	7.18
Love is most important at T1	0.45	0.08	.47***	0.29, 0.61	5.66
ΔF	$F(1,115) = 32.02, p = .000$				
ΔR^2	.22				
R^2	.22				

Table 5 cont.

Outcome: Love is most important at T2	B	SE	Beta	95% CI	t
<i>Step 2</i>					
Constant	7.35	1.23		4.91, 9.79	5.97
Love is most important at T1	0.46	0.08	.47***	0.30, 0.61	5.72
Gender at T1	-1.23	0.66	-.15	-2.55, 0.09	-1.85
Relationship status at T1	0.24	0.58	.04	-0.91, 1.39	0.41
ΔF	$F(2,113) = 2.02, p = .137$				
ΔR^2	.03				
R^2	.23				
Outcome: Sex demonstrates love at T2					
<i>Step 1</i>					
Constant	4.84	0.64		3.57, 6.11	7.56
Sex demonstrates love at T1	0.37	0.08	.38***	0.20, 0.53	4.44
ΔF	$F(1,115) = 19.70, p = .000$				
ΔR^2	.15				
R^2	.15				
<i>Step 2</i>					
Constant	5.06	1.07		2.96, 7.17	4.76
Sex demonstrates love at T1	0.34	0.09	.35***	0.16, 0.51	3.83
Gender at T1	0.51	0.61	.07	-0.70, 1.72	0.83
Relationship status at T1	-0.60	0.56	-.10	-1.70, 0.51	-1.07
ΔF	$F(2,113) = 1.15, p = .320$				
ΔR^2	.02				
R^2	.14				
Outcome: Love comes before sex at T2					
<i>Step 1</i>					
Constant	3.03	0.59		1.86, 4.19	5.16
Love comes before sex at T1	0.64	0.08	.60***	0.48, 0.79	8.08
ΔF	$F(1,115) = 65.31, p = .258$				
ΔR^2	.36				
R^2	.36				
<i>Step 2</i>					
Constant	3.40	1.03		1.36, 5.45	3.30
Love comes before sex at T1	0.63	0.08	.60***	0.47, 0.79	7.87
Gender at T1	-0.47	0.70	-.05	-1.85, 0.92	-0.67
Relationship status at T1	0.04	.60	.01	-1.16, 1.23	.06
ΔF	$F(2,113) = 0.25, p = .783$				
ΔR^2	.00				
R^2	.35				

Table 5 cont.

Outcome: Sex is declining at T2	B	SE	Beta	95% CI	t
<i>Step 1</i>					
Constant	6.55	0.79		4.99, 8.10	8.33
Sex is declining at T1	0.26	0.09	.27**	0.09, 0.43	3.02
ΔF	$F(1,115)=9.13, p=.003$				
ΔR^2	.07				
R^2	.07				
<i>Step 2</i>					
Constant	6.70	0.91		4.89, 8.51	7.34
Sex is declining at T1	0.21	0.10	0.22*	0.02, 0.40	2.17
Gender at T1	-0.11	0.51	-.02	-1.13, -0.90	-0.22
Relationship status at T1	0.55	0.49	.12	-0.42, 1.53	1.24
ΔF	$F(2,113)=5.25, p=.487$				
ΔR^2	.01				
R^2	.06				

Note. 0 = single status; 1 = partnered status; 0 = men; 1 = women.

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

Furthermore, in regard to perception of love and sex at T2, four dimensions of perception of love and sex at T1 turned out to be significant predictors of perception of love and sex at T2. Analogically, as in regard to sexual attitudes, there was a positive association between perception of love and sex at T1 and T2. At the same time, neither gender nor relationship status at T1 was found to be predictive of perception of love and sex at T2.

Discussion

The major aim of this research was to examine the cross-lagged relations between sexual attitudes, perception of love and sex, and young adults' relationship status. The first hypothesis, assuming the predictive role of sexual attitudes at T1 and of perception of love and sex at T1 of relationship status at T2, was tested by using binary logistic regression analysis. The performed analysis revealed the predictive role of one of the four ways of merging love with sex into a romantic relationship at T1 (i.e., belief that sex is declining) for relationship status at T2. The obtained results indicated that the higher belief that sex is no longer as much a part of the relationship as it used to be, the higher probability of having a partner. This pattern of association between belief that sex is declining at T1 and partnered status at T2 may be refer to the dynamics and changes of passion in romantic relationships (Wojciszke, 2010). To be precise, typical displays of passion such as sexual contacts, and desire and search for physical intimacy also decrease with the relationship duration (Wojciszke, 2010). As a result, with the duration

of a relationship, partnered people may believe that sex is declining, that sex is no longer as much a part of the relationship as it was at the beginning of their relationships.

The present findings can be also to a certain degree compared to the results from Hendrick and Hendrick (2004) study. Their research revealed that two beliefs, i.e. Love is most important and Sex is declining are significant predictors of commitment in a relationship. To be precise, in the Hendrick and Hendrick study (2004), higher endorsement of the belief that Love is Most Important was related to higher commitment in a relationship, whereas higher endorsement of Sex is Declining was related to lower commitment.

The second hypothesis tested in the current study assumed an alternative direction of association between relationship status, sexual attitudes, and perception of love and sex. This reversed direction was tested by using a series of hierarchical regression analyses in which relationship status at T1 was introduced as a predictor of sexual attitudes and perception of love and sex at T2. In addition, in these analyses, sexual attitudes and perception of love and sex at T1 were included as predictors of sexual attitudes and perception of love and sex at T2.

The performed analyses indicated that all four sexual attitudes and all four aspects of perception of love and sex at T1 were predictive of sexual attitudes and perception of love and sex at T2. In both cases, sexual attitudes and perception of love and sex at T1 were positively related to sexual attitudes and perception of love and sex at T2, and this association was from strong through medium to low in magnitude. Furthermore, the substantial analyses did not

confirm the predictive role of relationship status at T1 of sexual attitudes and perception of love and sex at T2. At the same time, such a predictive role was observed for gender at T1 that turned out to be a predictor of instrumentality at T2 referring to self-centered, physical orientation to sex (Hendrick et al., 1985). In other words, being female at T1 predicted the higher level of focusing on “one’s own pleasure, the taking of pleasure, enjoyment” (Hendrick et al., 1985, p. 1634). This higher level of instrumentality among women is interesting in light of the results obtained, for example, by Hendrick and colleagues (1985). To be precise, Hendrick and colleagues (1985) discovered that men held the conviction of sexual instrumentality to a higher degree. At the same time, as authors indicated, “means for both genders were in a relatively noninstrumental direction” (Hendrick et al., 1985, p. 1640). This predictive role of gender for instrumentality with women revealing higher endorsement of instrumentality in comparison to men may be an indicator of a contemporary shift in women’s attitudes towards sex.

Limitations and Future Directions

There are several limitations of the present study which need to be considered evaluating its results. The most pressing of these limitations includes the limited sample size ($N=117$). The sample size used in the current study was small and larger samples are needed to provide stronger evidence for the relationships revealed in the present investigation. Secondly, the participants involved in this research represents fairly homogenous sample in terms of age, level of education, and relationship history. Therefore, it limits the ability to generalize the presented results to older participants representing divorced, separated and widowed individuals. Thirdly, the current study examines sexual attitudes, not behaviors, and therefore it cannot lead to any conclusions about any real behaviors in the domain of sexual activity. In future research it would be informative to also include measures of actual sexual behaviors alongside sexual attitudes. Finally, although the fact that the current study was conducted on a sample of Polish youth expands the generalizability of the results, further research of cross-cultural nature is needed. It is due to the fact that Poland is still a country of traditional values, and the Polish culture is heavily influenced by the Roman Catholic religion, which affects social norms and attitudes concerning family formation, and the level of social disapproval of alternative marital and family forms (Baranowska-Rataj, Matysiak, & Mynarska, 2013). Therefore, it is plausible that these factors may additionally influence sexual attitudes and perception of love and sex.

References

- Adamczyk, K. (in review). *Marital and love attitudes as predictors of Polish young adults' relationship status*.
- Adamczyk, K. (2014). *Postawy wobec małżeństwa i miłości młodych dorosłych posiadających i nie posiadających partnera życiowego [Marital and love attitudes of single and partnered young adults]*. Paper presented at XXIII Ogólnopolska Konferencja Psychologii Rozwojowej pod hasłem „Zmiany rozwojowe w biegu życia: konteksty i perspektywy”, Lublin, 28–30 maja 2014 r.
- Adler, N.L., & Hendrick, S.S. (1991). Relationships between contraceptive, behavior and love attitudes, sex attitudes and self-esteem. *Journal of Counseling & Development, 70*(2), 302–308. doi: 10.1002/j.1556-6676.1991.tb01601.x
- Aron, A., & Aron, E.N. (1991). Love and sexuality. In: K. McKinney & S. Sprecher (Eds.), *Sexuality in close relationships* (pp. 25–48). Hillsdale, NJ: Erlbaum.
- Baranowska-Rataj, A., Matysiak, A., & Mynarska, M. (2013). Does lone motherhood decrease women’s happiness? evidence from qualitative and quantitative research. *Journal of Happiness Studies, 15*, 1457–1477. doi: 10.1007/s10902-013-9486-z
- Baucom, D., & Epstein, N. (1990). *Cognitive-behavioral marital therapy*. New York: Brunner/Mazel.
- Cann, A., Mangum, J.L., & Wells, M. (2001). Distress in response to relationship infidelity: The roles of gender and attitudes about relationships. *The Journal of Sex Research, 38*(3), 185–190.
- Conger, R.D., Cui, M., Bryant, C.M., & Elder, G.H. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology, 79*(2), 224–237. doi: 10.1037/0022-3514.79.2.224
- Conley, T.D., & Collins, B.E. (2002). Gender, relationship status, and stereotyping about sexual risk. *Personality and Social Psychology Bulletin, 28*(11), 1483–1494. doi: 10.1177/014616702237576
- Hendrick, S.S., & Hendrick, C. (1987). Multidimensionality of sexual attitudes. *The Journal of Sex Research, 23*(4), 502–526.
- Hendrick, S.S., & Hendrick, C. (2002). Linking romantic love with sex: Development of the perceptions of love and sex scale. *Journal of Social and Personal Relationships, 19*(3), 361–378. doi: 10.1177/0265407502193004
- Hendrick, S.S., Hendrick, C., Slapion-Foote, M.J., & Foote, F.H. (1985). Gender differences in sexual attitudes. *Journal of Personality and Social Psychology, 48*(6), 1630–1642. doi: 10.1037/0022-3514.48.6.1630
- Hendrick, C., Hendrick, S.S., & Reich, D.A. (2006). The Brief Sexual Attitudes Scale. *Journal of Sex Research, 43*(1), 76–86. doi: 10.1080/00224490609552301
- Hox, J.J. (2010). *Multilevel analysis. Techniques and applications*. New York and Hove: Routledge.
- Le Gall, A., Mullet, E., & Rivière Shafiqi, S. (2002). Age, religious beliefs, and sexual attitudes. *Journal of Sex Research, 39*(3), 207–216.
- Levine, T.R., Strzyzewski Aune, K., & Park, H.S. (2006). Love styles and communication in relationships: Partner preferences, initiation, and intensification. *Communication Quarterly, 54*(4), 465–486. doi: 10.1080/01463370601036515
- Misovich, S.J., Fisher, J.D., & Fisher, W.A. (1997). Close relationships and elevated HIV risk behavior: Evidence and possible underlying psychological processes. *Review of General Psychology, 1*(1), 72–107. doi: 10.1037/1089-2680.1.1.72
- Regan, P.C. (1998a). Of lust and love: Beliefs about the role of sexual desire in romantic relationships. *Personal Relationships, 5*(2), 139–157. doi: 10.1111/j.1475-6811.1998.tb00164.x
- Regan, P.C. (1998b). Romantic love and sexual desire. In V.C. De Munck (Ed.), *Romantic love and sexual behavior: perspectives from the social sciences* (pp. 91–112). Westport, CT: Praeger.
- Regan, P.C. (2000). The role of sexual desire and sexual activity in dating relationships. *Social Behavior and Personality, 28*(1), 51–60. doi: http://dx.doi.org/10.2224/sbp.2000.28.1.51
- Schachner, D.A., Shaver, P.R., & Gillath, O. (2008). Attachment style and long-term singlehood. *Personal Relationships, 15*(4), 479–491. doi: 10.1111/j.1475-6811.2008.00211.x
- Willoughby, B.J. (2014). Using marital attitudes in late adolescence to predict later union transitions. *Youth & Society, 46*(3), 425–440. doi: 10.1177/0044118X12436700
- Willoughby, B.J., & Carroll, J.S. (2010). Sexual experience and couple formation attitudes among emerging adults. *Journal of Adult Development, 17*(1), 1–11. doi: 10.1007/s10804-009-9073-z
- Wojciszke, B. (2010). *Psychologia miłości [Psychology of love]*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Qaqiesh, E., & Regan, P.C. (2004). Attitudes toward extrarelational sex as a function of participant’s and third party’s gender. *Psychological Reports, 95*(3), 965–968.