

FREQUENCY OF PORNOGRAPHY USE IS INDIRECTLY ASSOCIATED WITH LOWER
RELATIONSHIP CONFIDENCE THROUGH DEPRESSION SYMPTOMS AND PHYSICAL
ASSAULT AMONG CHINESE YOUNG ADULTS

by

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Abstract

Using data from young adults ($N = 224$) living in Beijing and Guangzhou, China this study examined the direct association between frequency of pornography use and relationship confidence and indirect associations through depression symptoms and physical assault. Results using structural equation modeling demonstrated that higher frequency of pornography use was indirectly linked with lower relationship confidence via depression symptoms and physical assault. These findings are informed by Social Constructionist Theory (Gergen, 1985), which considers how individuals take what they understand from their culture, exposure to material such as pornography, and other social experiences to develop and make meaning of who they are within their relational context.

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Chapter 1 - Introduction

Pornography is a growing global industry, with worldwide revenues larger than the top technology companies combined: Microsoft, Google, Amazon, eBay, Yahoo!, Apple, Netflix, and EarthLink (Ropelato, 2007), and is becoming more and more accessible through electronic means. Pornography use in China, specifically online viewing, is quite common, with 62.9% of a sample of 229 young adult males reporting viewing online pornography “sometimes” or “frequently” (Lam & Chan, 2007). In a study with a nonclinical sample of American young adults, 87% of men and 31% of women reported using pornography (Carroll, et al., 2008). As a result, there is a growing interest in outcomes related to pornography use, with recent research finding that pornography use has implications for relationship quality (Stewart & Szymanski, 2012) and personal well-being (Philaretou, Mahfouz, & Allen, 2005).

With the high and increasing rates of pornography use, and initial evidence that pornography use is related to relationship outcomes (Stewart & Szymanski, 2012), researchers should continue to consider outcomes associated with this behavior in the context of romantic relationships. The present study considers how pornography use is directly and indirectly associated with relationship confidence, or one’s confidence that he or she can maintain a future long-term relationship. Depression and physical assault will be used to help explain this relationship. Depression has been associated with online exposure to pornography in adolescents (Ybarra & Mitchell, 2005) and is a known predictor of intimate partner aggression (Stith, et al., 2004; Ulrich-Jakubowski, Russell, & O’Hara, 1988), which could make it an important mediator in our model. Physical assault could be another important mediator in our model based on initial evidence that pornography consumption is positively associated with attitudes supporting violence against women (Hald, Malamuth, & Yuen, 2010). Physical assault perpetration is a

highly prevalent issue in couple relationships. For example, in a study of 283 university students, 47% of participants involved in an ongoing dating relationship had experienced their partner engaging in physical violence against them (Katz, Kuffel, & Coblenz 2002). With the high prevalence of physical violence in dating relationships and its potential link to pornography use, it seems important to measure if physical assault contributes to explaining relationship outcomes, such as confidence.

To expand the research literature, the relationship between pornography use and relationship outcomes needs to be examined cross-culturally as some outcomes may be more or less relevant for different populations. The purpose of this study, therefore, is to examine the degree to which frequency of pornography use is associated with relationship confidence through depression and physical assault (see Figure 1). In this study, pornographic material is defined as sexually explicit material featured in magazines, movies, and/or Internet sites. We intend to expand the knowledge about depression and physical assault as links from pornography use to relationship confidence in a nonclinical, international sample.

Social Constructionist Theory

To understand theory behind the model in the current study, we must first consider Chinese culture. Recently, the government in China identified a college student population of internet-users as one of their two, high-risk groups that should be targeted for HIV prevention efforts (Hong, Li, Mao, & Stanton, 2007). Many partake in viewing pornographic material online (Lam & Chan, 2007), and researchers in China have looked into online sexual risk behaviors associated with Internet use (Hong, et al., 2007). Thus, pornography use, specifically online usage has been noticed by the government and researchers in China. Another variable in our model, depression, can be considered an experience that is viewed through a cultural lens, as

described by Ryder et al., (2008). In a study comparing depressed Chinese and North American samples, the Chinese sample reported greater levels of stigma and more somatic symptoms than psychological symptoms of depression (Ryder, et al., 2008). The significance of online pornography use paired with the distinct experience of depression symptoms in this population makes these two variables stand out as relevant to explaining certain relationship outcomes.

Social constructionist theory helps explain the rationale for our proposed model. This theory suggests that any belief can be maintained regardless of actual validity as long as social interactions (e.g., communication, negotiation, conflict) keep it in place (Gergen, 1985). From this lens, Gergen (1985) explains that perspectives, views, or descriptions of a person can be retained regardless of actual behavior. The perspective or outcome variable measured in this study is relationship confidence, or the belief that a person can maintain a long-lasting relationship into the future. Social constructionist theory can inform our understanding of how pornography use may be associated with relationship confidence through mediators such as depression and physical assault.

As described in Gergen (1985), social constructionism helps us understand how people might establish descriptions or explanations about themselves and the world around them. This process is not an individual quest, but one that happens while in relationship with others. It is described as an “active, cooperative enterprise of persons in relationship” (Gergen, 1985, p. 267). As such, an individual in a romantic relationship is not only in relationship with their partner, but also with the numerous social forces around them. This includes the interactions observed in pornographic images and videos. Definitions of morality, emotions, aggression, and romantic relationships are created based on social relationships (Gergen, 1985), which can include live or virtual settings. In the context of the present sample, the government in Hong Kong once strictly

monitored the use of pornography (Gold, 1993), pointing to the taboo nature of its use. Specifically, for those who put stock in the taboo definition of pornography or consider it incongruent with their values, but also use pornography, this can activate depression symptoms. We know from Thompson and colleagues (2010) that depression can result in maladaptive coping styles such as rumination. This pattern of thinking about and focusing on the problem has the potential to make a person feel stuck and resort to other maladaptive coping behaviors such as acting out in aggression toward others.

Based on social constructionism, individuals take what they understand from their culture, exposure to material such as pornography, and other social experiences to develop and make meaning of who they are within their relational context. In regards to our study, a person who uses pornography may find that he or she is not worthy or able to meet the expectations defined by pornographic material within their own romantic relationship. Additionally, this person is left to deal with the effects of engaging in an activity that may or may not be congruent with who they believe they are and the values they hold. In cases where a person creates negative meaning of their identity such as feeling unworthy, immoral, or incompetent, the individual may experience depression symptoms associated with watching pornography. In such a situation where an individual experiences depression symptoms, the individual may consequently become more likely to engage in dating aggression. Social constructionist theory provides an insightful lens for how depression symptoms can be produced from viewing pornographic material, and also how this creation of reality can result in lowered confidence attributed to future social relationships of the same nature.

Chapter 2 - Literature Review

There are several negative intrapersonal and interpersonal consequences for people who use online pornography in a compulsive manner including guilt, depression, anxiety, and a general inability to experience adequate intimacy with real-life partners (Benotsch, Kalichman, & Cage, 2002; Cooper et al., 2004; Cooper, Putnam et al., 1999; Cooper, Scherer et al., 1999; Delmonico, 1997; Lane, 2000). Thirteen percent of respondents in one study reported that the area of life most commonly jeopardized by their online pornography use was personal relationships (Cooper, Delmonico, & Burg, 2000). Thus, it is important to assess how pornography use is specifically associated with intimate relationship outcomes such as relationship confidence.

Pornography and Relationship Confidence

There is documentation of both positive and negative effects of pornography use on romantic relationships (Staley & Prause, 2013). In a study by Staley and Prause (2013), participants who viewed erotic films reported an increased desire to be close to their partner and reported more positive evaluations of their own sexual performance. The negative effects, however, included reports of negative affect, guilt, and anxiety. These mixed findings may be due to the method of the study in which the participants watched films both alone and with their partner. Although no partner effects were found, simply knowing one's partner is also going through the study could direct one's attention and desire toward their partner creating higher levels of inclination to feel closer to their partner. Furthermore, 80% of the sample reported being affiliated with a religion, which could partially explain the reports of guilt and negative

affect after viewing erotic films. Finally, this study did not include reports of the frequency of pornography use by participants.

Higher pornography use is also associated with lower sexual quality, and in some cases, lower relationship satisfaction (Poulsen, Busby, & Galovan, 2013) as well as perceptions of lower self-esteem and relationship quality in women whose partners use pornography (Stewart & Szymanski, 2012). On the other hand, pornography use was not significantly associated with young adults' intentions to eventually get married and become parents, or their regard for marriage and parenthood (Carroll et al., 2008)—but the possibility remains that pornography use could be related to one's confidence in his/her ability to form and sustain a future relationship. Given the current body of literature, we suggest there could be a direct relationship between one's pornography use and his or her relationship confidence. We also suggest that an indirect relationship exists between pornography use and relationship confidence through individual depression symptoms and physical assault perpetration.

Depression and Physical Assault as Potential Mediators between Pornography Use and Relationship Confidence

Prior research gives us reason to believe that depression and physical assault may be important mediating variables between pornography use and relationship confidence. Researchers have linked viewing pornography to depression. For example, in a sample of adolescent pornography users, those who used the internet to view pornographic material were 3.5 times as likely to report clinical features of major depression compared to offline seekers (Ybarra & Mitchell, 2005). In fact, the fourth stage in the cybersex compulsion cycle as outlined by Carnes (1994) is “desperation” where one must deal with the feelings of hopelessness, depression, and shame that follow his or her addictive sexual experience. The current study will

determine whether frequency, rather than compulsive or addictive behavior per se, is also related to depression symptoms. Further, a large body of research has found a strong link between depression and couple outcomes such as marital satisfaction (e.g., Davila, Karney, Hall, & Bradbury, 2003), therefore, depression symptoms might be an important link between pornography use and relationship confidence.

In regards to physical assault, a recent meta-analysis of non-experimental studies found that pornography consumption was positively associated with attitudes supporting violence against women (Hald, Malamuth, & Yuen, 2010). This relationship held true for both violent and non-violent pornography use, although the violent pornography use had a significantly stronger effect on attitudes supporting violence against women. Cross-cultural research studies based on Chinese samples support the role of pornography use in effecting these relationship outcomes. It has been suggested that adolescents' frequency of accessing sexually explicit online material is positively associated with their acceptance of stereotyped gender roles and power imbalance in sexual relationships (To, Ngai, & Kan, 2012). This acceptance of power imbalance might place couples at risk for perpetuating physical assault. Further, there is an association between online pornography viewing and sexual harassment inclination among young adult participants in a study conducted in Hong Kong (Lam & Chan, 2007).

Regarding the potential link between depression and physical assault, Stith and colleagues (2004) found depression to be a risk factor for perpetration of physical abuse against intimate partners. Perhaps individuals who create self-destructive descriptions of their worth may have maladaptive coping strategies for dealing with feelings of depression that contribute to acting out with physical assault against a dating partner. Thus, depression symptoms could be an

important link in the relationship between pornography use, physical assault, and relationship confidence.

Although little prior research focused on relationship confidence as an outcome variable, depression and physical assault are linked in the research to other relationship outcomes. For instance, victims of dating violence report experiencing anger or emotional hurt as the most impactful effect of having physical force used against them by their partner (Follingstad, et al., 1991). Additionally, Panuzio and Dilillo (2010) found that higher levels of all types of intimate partner aggression were associated with lower victim marital satisfaction across time in their longitudinal study. Depression has been argued as both a predictor and outcome of marital satisfaction (Davila et al., 2003). This study aims to add to the literature by examining how depression and physical assault link the use of pornography to the outcome of relationship confidence in the context of dating relationships in mainland China.

Using social constructionist theory to inform this study, we propose that more frequent use of pornography provides more exposure to taboo social interactions that are sexual in nature, which a person must consequently make meaning of for their own personal identity and romantic relationship. For those who put stock in the taboo definition of pornography or consider it incongruent with their values, but also use pornography, this can activate depression symptoms. Depression as an outcome of this experience is proposed to manifest itself within the relationship. Specifically, these depression symptoms could negatively influence one's sense of self, which puts them in a state of internal conflict. If one does not effectively cope with this internal conflict, he or she may act out in physical aggression toward their partner to cope. We suggest this links to one's lowered relationship confidence. Taking these mediating variables into

consideration, we propose that more frequent pornography use is not only directly linked, but also indirectly linked to lower confidence in maintaining future relationships.

Present Study

The objective of this study was to examine whether the frequency of pornography use is associated with relationship confidence and if depression symptoms and physical assault mediate this association. We made the following six direct-path hypotheses: H1: higher scores on frequency of pornography use will be directly associated with higher scores on depression symptoms; H2: higher scores on frequency of pornography use will be directly associated with higher scores on physical assault; H3: higher scores on frequency of pornography use will be directly associated with lower scores on relationship confidence; H4: higher scores on depression symptoms will be directly associated with higher scores on physical assault; H5: higher scores on depression symptoms will be directly associated with lower scores on relationship confidence; H6: higher scores on physical assault will be directly associated with lower scores on relationship confidence. We made the following three indirect-path hypotheses: H7: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effects on depression symptoms and physical assault; H8: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effect on physical assault; H9: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effect on depression symptoms.

This model controls for the effects of age, gender, and witnessing parental violence. Age is an appropriate control variable based on findings from a longitudinal National Youth Survey that prevalence of physical violence decreases as young adults age (Halpern et al., 2001). Gender

is important to have as a control based on previous knowledge regarding difference in prevalence rates for men and women of both pornography use (Poulsen, Busby, & Galovan, 2013) and perpetration of physical violence (Archer, 2000). Finally, witnessing parental violence was chosen as a control variable due to literature identifying this as a risk factor for perpetration of violence (Saunders, 1995).

Chapter 3 - Method

Procedures

The primary research project was conducted in 2010 to explore the relationship formation, relationship processes, and dating violence behaviors of Chinese young adults. The sample was recruited from two large universities in China, one in Beijing and one in Guangzhou. In accordance with university policy, the participants were recruited at Beijing via posted advertisements and those in Guangzhou were recruited through introductions during academic classes. The completion of surveys was voluntary. The original survey consisted of 264-items using measures that had been translated and validated for use in Chinese populations. The scales not originally available in Mandarin were translated from English to Mandarin by a native Mandarin speaker and then back translated from Mandarin to English by a separate native Mandarin speaker as a check on the reliability of the transition.

Participants

Participants were 224 young adults from two universities in China. The sample consisted of both undergraduate and graduate students who were in a romantic relationship at the time of survey completion. The mean age of the sample was 22 years old ($SD = 2.47$, Range = 18-30). Regarding gender, there were slightly more males (53.6%) than females (46.4%). Relationship status varied within the sample with slightly over 11% in a “casual dating” relationship, 39.5% in a “serious dating” relationship, and 49.1% in a “committed relationship, engaged, or married.” Romantic relationship length averaged 15 months for this sample ($SD = 15.7$). Almost a quarter of the sample were in their freshman year of college, 7.8% were sophomores, 34.0% were juniors, 13.6% were seniors, and just under 20% were graduate students.

Measures

Latent constructs were developed for depression, physical assault, and relationship confidence. For each measure, we used an item-parceling technique (see Little, 2013; Little, Cunningham, Shahar, & Widaman, 2002), which uses averaged aggregates of multiple items to comprise the indicators for the latent construct rather than single items. Little (2013) outlines the numerous advantages of using parcels over single items.

Pornography use

Pornography use was measured with a single-item that asked, “How frequently do you view pornographic material, such as magazines, movies, and/or Internet sites?” Responses ranged from 0 (*none*) to 5 (*everyday or almost everyday*). Similar research literature assessing frequency of pornography use has found single-item measurement to be an acceptable method to assess frequency of use (Svedin, Akerman, & Priebe, 2011; Poulsen, Busby, & Galovan, 2013).

Depression

Depression was measured using the nine-item Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001). Participants were asked to indicate how often over the last two weeks they were bothered by any of the following problems, including “Feeling down, depressed, or hopeless,” and “Feeling tired or having little energy.” Responses were recoded to range from 0 = *not at all* to 3 = *nearly every day* on a Likert scale. From the nine items, three parcels were created to act as indicators of the latent construct, depression symptoms. Higher scores indicate higher levels of depression. Cronbach’s alpha reliability in the current sample was high ($\alpha = .86$).

Physical assault

Physical assault was measured using the revised Conflict Tactics Scale (CTS2; Straus et al., 1996). The CTS2 is a 39-item scale comprised of five subscales: negotiation, psychological aggression, physical assault, sexual coercion, and injury. The eight-item subscale measuring the perpetration of physical assault toward one's partner was used in the current study. Three parcels were created from these eight items to serve as indicators of the latent construct, physical assault. Participants were asked to indicate the frequency with which each of the items occurred within the past year. The responses were recoded to range from 0 = *this has never happened* to 7 = *more than 20 times in the past year*. Sample items for physical assault included "I threw something at my partner that could hurt" and "I twisted my partner's arm or hair." The scale measuring physical assault perpetration was found to be reliable in the current sample ($\alpha = .93$).

Relationship confidence

Four items comprising the Confidence Scale (Whitton et al., 2007) were used to measure relationship confidence. The items included were: "I believe I can handle whatever conflicts will arise in my future marriage," "I feel good about the prospects of making a marriage work for a lifetime," "I am very confident that I can create a lifelong happy marriage," and "I have the skills necessary to make a marriage last." Items were measured on a scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The four items were parceled into three indicators for the latent construct, relationship confidence. Higher scores indicate greater relationship confidence. The coefficient α in the sample was .93.

Control variables

To increase confidence in the findings of the model, age, gender, and witnessing parental violence were used as control variables. Age was a continuous variable reported in years. Gender

was coded as 1 = *male*; 2 = *female*. Finally, to measure witnessing parental violence, participants were asked to indicate if there was ever any physical violence (pushing, slapping, etc.) between their parents while they were growing up. Responses included 1 = *No*; 2 = *Yes: Father to mother violence*; 3 = *Yes: Mother to father violence*; 4 = *Yes: Mutual violence between father and mother*; and 5 = *Yes: Other*. This variable was recoded to include only 1 = *No*; 2 = *Yes*.

Table 3.1 Means, Standard Deviations, Ranges, and Alpha Coefficients for Study Measures (N = 224 Individuals)

Measure	Mean	SD	Min.	Max.	Alpha (# of items)
Pornography Frequency of Use	0.70	.93	0	5	(1)
Depression Symptoms	.812	.587	0	3	0.86 (9)
Physical Assault Perpetration	.911	1.62	0	7	0.93 (12)
Relationship Confidence	5.10	1.26	1	7	0.93 (4)
Age	22.1	2.47	18	30	(1)
Gender	1.47	-	1	2	(1)
Witnessing Parental Violence	1.78	1.22	1	5	(1)

Analysis

Among the eight variables used in the analysis, the amount of missing data ranged from 0.8% (age) to 15.6% (perpetration of physical assault). There were no missing data for the pornography measure. Missing data were dealt with using full-information maximum likelihood (FIML), which is the recommended procedure to produce less biased results compared to listwise deletion, pairwise deletion, or mean substitution (Acock, 2005).

Descriptive statistics and correlations were examined initially. Then, using Mplus 6 (Muthen & Muthen, 2010), we tested the initial model fit with a confirmatory factor analysis (CFA) followed by a structural equation model, which was used to test the theoretically derived

model, assessing underlying processes for the indirect relationship between frequency of pornography use to depression symptoms to physical aggression to relationship confidence, while controlling for age, gender, and witnessing parental violence. The criteria used to evaluate acceptable model fit were as follows: nonsignificant chi-square value, root mean square error of approximation (RMSEA) less than .05 for good fit and less than .08 for reasonable fit, comparative fit index (CFI) greater than .95, and standardized root mean square residual (SRMR) less than .10 (Kline, 2011).

The confirmatory factor analysis (CFA) was conducted and demonstrated reasonable fit to the data as a measurement model: $\chi^2(30) = 51.75, p = .001$; RMSEA = .057 (90% CI = .029, .082); CFI = .983; Tucker-Lewis index (TLI) = .975; SRMR = .032. Once model fit was achieved and direct effects assessed, the indirect effects were tested with 5,000 bootstraps (Preacher & Hayes, 2008).

Chapter 4 - Results

Correlations

The correlations (see Table 2.1) between variables of interest offer important information.-As hypothesized, greater frequency of pornography use was related to higher levels of depression symptoms ($r = .21, p < .01$) and physical assault ($r = .27, p < .001$). There was no significant relationship between frequency of pornography use and relationship confidence ($r = -.04, p = .53$). We found higher levels of depression symptoms were related to higher levels of physical assault ($r = .35, p < .001$) and lower levels of relationship confidence ($r = -.33, p < .001$). Finally, higher levels of physical assault were related to lower levels of relationship confidence ($r = -.47, p < .001$).

Table 4.1 Correlations among Relationship Confidence, Physical Assault, Depression, and Pornography Use (N = 224 Individuals)

Variables	1	2	3	4
1. Relationship Confidence	–			
2. Physical Assault	-.47**	–		
3. Depression	-.33**	.35**	–	
4. Pornography Use	-.04	.27**	.21**	–

Note: * $p < .05$. ** $p < .01$ (two-tailed).

Structural Model Results

The standardized results for the structural model can be viewed in Figure 1.1. The structural model showed acceptable fit to the data using standards set by Kline (2011): $\chi^2 (48) = 81.5, p < .001$; RMSEA = .056 (90% CI = .034, .076); CFI = .975; TLI = .963; SRMR = .032.

All outcome variables (i.e., depression symptoms, physical assault, and relationship confidence) were regressed onto all control variables.

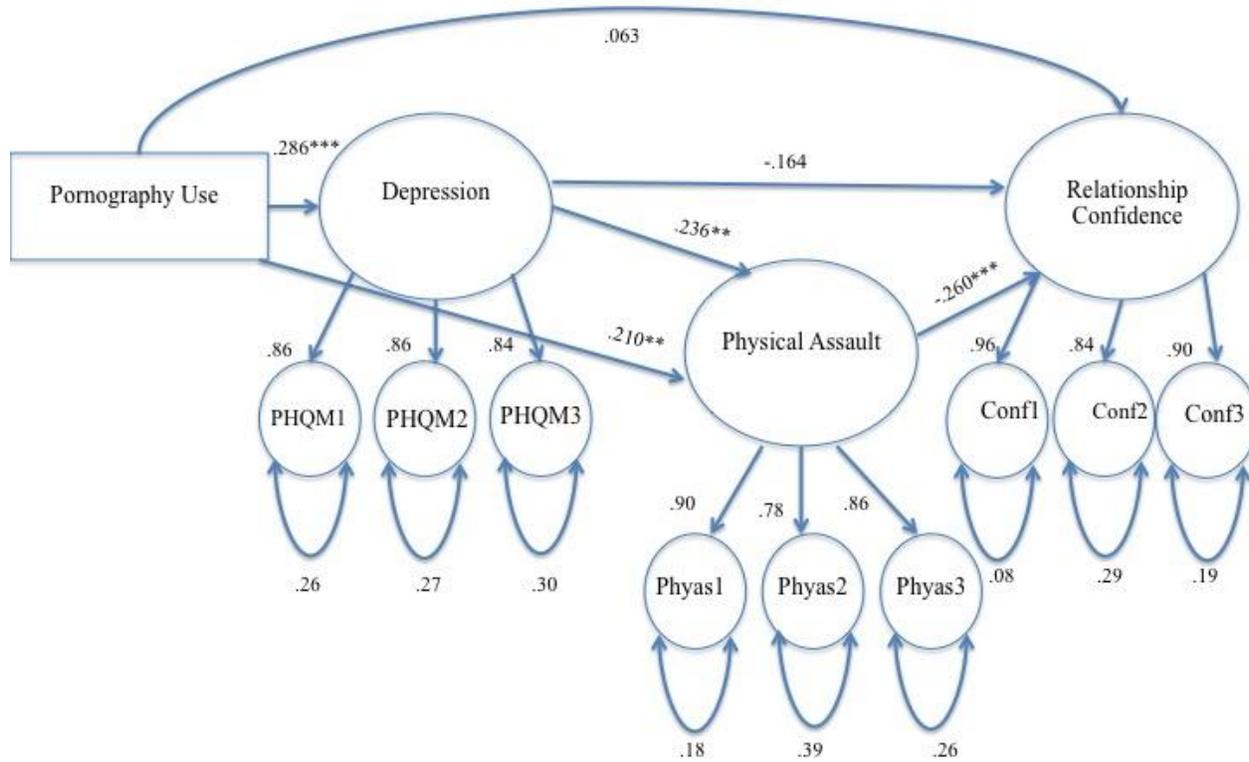


Figure 4.1 Structural Equation Model: Pornography Use, Depression, Physical Assault, and Relationship Confidence (N = 224 Individuals)

Note: Model Fit Indices: $\chi^2(48) = 81.5, p < .001$; RMSEA = .056 (90% CI = .034, .076); CFI = .975; TLI = .963; SRMR = .032. This model controlled for age, gender, and witnessing parental violence, not shown in this figure to simplify interpretation of primary results.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

The direct pathways from pornography use to depression symptoms and physical assault had medium effect sizes. Higher frequency of pornography use was significantly associated with higher levels of depression symptoms ($b = .179, \beta = .286, p < .001$) and physical assault ($b = .280, \beta = .210, p < .01$). Frequency of pornography use was not associated with relationship

confidence ($b = 0.79, \beta = .063, p = .42$). Depression symptoms were significantly associated with higher scores on physical assault ($b = .501, \beta = .236, p < .01$), but not significantly associated with relationship confidence ($b = -0.33, \beta = -.164, p = .12$). Physical assault was significantly associated with lower scores on relationship confidence ($b = -.246, \beta = -.260, p < .001$).

Age was significantly associated with depression symptoms ($b = -.093, \beta = -.393, p < .001$) such that higher age related to lower levels of depression symptoms. Higher age was also significantly associated with lower levels of physical assault ($b = -.089, \beta = -.177, p = .03$), and higher levels of relationship confidence ($b = .074, \beta = .157, p = .024$). Gender was significantly associated with relationship confidence ($b = .29, \beta = .124, p = .058$) such that females had greater relationship confidence than males in this sample. Gender was not, however, significantly associated with depression symptoms ($b = .077, \beta = .066, p = .349$) or physical assault ($b = -.082, \beta = -.033, p = .654$). Witnessing parental violence was significantly associated with depression symptoms ($b = .077, \beta = .161, p < .01$) such that witnessing parental violence was related to higher levels of depression symptoms. Witnessing parental violence was also significantly related to lower levels of relationship confidence ($b = -.222, \beta = -.233, p < .001$). Witnessing parental violence, however, was not significantly related to physical assault ($b = .093, \beta = .092, p = .22$). The final model accounted for 21.5% of the variance in depression symptoms, 19% of the variance in physical assault, and 28% of the variance in relationship confidence.

Test of Indirect Effects

The indirect effect from pornography use to relationship confidence was tested with 5,000 bootstraps and a 90% confidence interval. The indirect path from pornography use to physical assault to relationship confidence was significant ($b = -.05, p = .09, C.I. = -.107, -.002$). This effect can be interpreted as follows: a 1 unit increase in pornography use was associated

with a .05 unit decrease in relationship confidence via its prior effect on physical assault, holding the control variables constant. Another indirect path from pornography use to depression symptoms to physical assault to relationship confidence was significant ($b = -.02$, $p = .09$, C.I. = $-.035$, $-.001$). This effect can be interpreted as follows: a 1 unit increase in pornography use was associated with a .02 unit decrease in relationship confidence via its prior effects on depression symptoms and physical assault, holding the control variables constant.

Chapter 5 - Discussion

In this study, we sought to understand how pornography use is related to the relationship outcome of confidence and whether this relationship is mediated by depression symptoms and physical assault. We made the following six direct-path hypotheses: H1: higher scores on frequency of pornography use will be directly associated with higher scores on depression; H2: higher scores on frequency of pornography use will be directly associated with higher scores on physical assault; H3: higher scores on frequency of pornography use will be directly associated with lower scores on relationship confidence; H4: higher scores on depression will be directly associated with higher scores on physical assault; H5: higher scores on depression will be directly associated with lower scores on relationship confidence; H6: higher scores on physical assault will be directly associated with lower scores on relationship confidence. We made the following three indirect-path hypotheses: H7: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effects on depression symptoms and physical assault; H8: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effect on physical assault; H9: higher scores on frequency of pornography use will be indirectly associated with lower scores on relationship confidence via its prior effect on depression symptoms.

While controlling for the effects of age, gender, and witnessing parental violence, four out of the six direct-path hypotheses and two out of the three indirect-path hypotheses were confirmed as statistically significant. We demonstrated that higher frequency of pornography use was indirectly linked with lower relationship confidence via its previous effects on depression symptoms and physical assault (H7). This suggests that one partner's pornography use may be positively associated with his or her depression symptoms, and consequently their likelihood to

be more physically violent toward their partner, resulting in lower confidence in maintaining future long-term relationships. In sum, the increased likelihood for depression symptoms and physical assault points to pornography's indirect threat to one's relationship confidence. This finding is consistent with previous research on similar outcomes of individual pornography use. For example, researchers found that nonusers of pornography reported higher levels of confidence in knowing the type of romantic relationship they wanted compared to users of pornography in a sample of religious young men (Nelson, Padilla-Walker, & Carroll, 2010). Male pornography use is associated with lower relationship satisfaction and sexual quality for men (Poulsen, Busby, & Galovan, 2013), which fits with our finding that an individual's own pornography use is negatively associated with their own relationship confidence. Our research extends these previous findings by looking at the underlying mechanism that may explain the link between pornography use and relationship confidence for both men and women.

Another significant indirect path linked higher frequency of pornography use to lower relationship confidence via physical assault (H8). This suggests that one partner's pornography use may be associated with his or her likelihood to be more physically violent toward his/her partner, resulting in lower confidence in maintaining future long-term relationships. The indirect path from pornography use to relationship confidence through depression was not found to be statistically significant (H9). This may suggest that depression symptoms alone do not explain the indirect relationship between pornography use and relationship confidence. Another possibility for explaining this finding is that the sample had relatively low levels of depression symptoms, creating a weaker link to relationship confidence. Physical assault, on the other hand, appears to be an important link between one's pornography use and subsequent relationship confidence. Pornography tends to objectify men and women—they are seen as objects to be

watched and used for personal gratification. Thus, it is could be that using pornography increases one's tendency to objectify others, which could lead to fewer inhibitions to act out aggressively toward others.

As seen in Figure 1, we found that higher frequency of pornography use was linked directly to higher levels of depression symptoms (H1). Others have also found a link between pornography use and depression (Nelson, Padilla-Walker, & Carroll, 2010). However, this study examined this link with a sample of both young men and women from a nonwestern sample that was not necessarily religious, opposed to a western sample of young, religious men. It is possible that because viewing pornography is often an isolating behavior (Yoder, Virden, & Amin, 2005), those who use pornography experience greater levels of depression symptoms as a result of spending time alone and potentially hiding a secret. It is also possible that those who are experiencing more depression symptoms are more likely to isolate themselves and get involved in viewing pornography.

We found that one's greater frequency of pornography use was also directly related to more frequently acting out aggressively within their relationship (H2). Other research supports this finding as well (Vega & Malamuth, 2007). However, this study examined this link with females and males, instead of just studying males. Depression symptoms were also directly linked to higher levels of physical assault in our study (H4). Stith and colleagues (2004) also found support for this link in their meta-analytic review of risk factors for partner physical abuse perpetration. They found that depression had a moderate effect size as a risk factor for physical abuse of an intimate partner.

We did not find a direct relationship between depression symptoms and lower relationship confidence (H5). However, higher rates of physical assault were directly associated

with lower relationship confidence (H6), such that one's physical aggression toward their partner was linked to his or her lower individual level of confidence in maintaining a future long-term relationship. Although there is little research on the link between relationship confidence and variables such as depression and physical assault, research on relationship quality has found that higher levels of physical aggression predicted lower victim marital satisfaction over time. Our study, although not longitudinal, considers how the perpetrator's relationship confidence is related to their acting out aggressively against their partner (Panuzio & DiLillo, 2010).

We did not find a direct association between pornography use and lower relationship confidence (H3), which is counter to past research related to dating identity (Nelson, Padilla-Walker, Carroll, 2010). This may be due in part to the single-item assessment measuring frequency of pornography use for this study. Without including more context for our assessment of pornography use in this study, we are limited in interpreting why this direct link is not statistically significant. Extraneous variables, such as pornography acceptance and viewing pornography with a partner, were not included in this model, and may serve to moderate this relationship. These unaccounted variables could potentially help explain the mixed findings in the literature stating a positive relationship between pornography use and couple outcomes such as satisfaction (Staley & Prause, 2013). Finally, it is possible we did not find a direct relationship here because our mediating variables act as the mechanism through which pornography use may affect relationship confidence. When accounting for this mechanism through depression and physical assault, the direct effect does not exist.

In our study we see higher levels of pornography use relating indirectly to lower rates of relationship confidence via depression and physical assault perpetration in both men and women. Our findings are informed by Social Constructionist Theory, which claims that any belief can be

maintained regardless of actual validity as long as social interactions (e.g., communication, negotiation, conflict) keep it in place (Gergen, 1985). From this lens, Gergen (1985) explains that perspectives, views, or descriptions of a person can be retained regardless of actual behavior. The perspective considered in this study is one's confidence in maintaining a future relationship. Based on social constructionism, individuals take what they understand from their culture, exposure to material such as pornography, and other social experiences to develop and make meaning of who they are within their relational context. Regarding our study, a person who uses pornography will observe social interactions in a sexual context, and may find that his or her self is not worthy or able to meet the expectations defined by pornographic material within their own romantic relationship. Additionally, this person is left to deal with the effects of engaging in an activity that may or may not be congruent with who they believe they are and the values they hold. This incongruence may create negative messages about one's ability to maintain a future romantic relationship.

Limitations

There are some notable limitations to this study. First, in using secondary data, we were limited by the way in which the variables were measured. For example, including more than one question item for frequency of pornography use could have strengthened the measure. Secondly, the sample used was not dyadic. Dyadic data would have allowed us to determine how one partner's pornography use was associated with the other partner's relationship confidence. Thirdly, the data were obtained from a sample of college students in China. These findings may not generalize well to those representing a different demographic than those attending the universities in Beijing and Guangzhou. Additionally, other variables could be more relevant for understanding how pornography use relates to relationship outcomes such as confidence. As a

person who views the world primarily through an individualistic lens, I cannot fully know the importance placed on relationship confidence as an outcome variable for dating relationships represented in this sample. Another limitation is that we do not have data regarding attitudes, beliefs, or meaning applied to the respondent's pornography use. By using social constructionist theory to frame the hypotheses of this study, it is assumed that how a person views their pornography use impacts their emotional coping and behaviors. Unfortunately, these views on the individual's pornography use were not measured and cannot be included in the analysis. Finally, with data taken at one time point, it is difficult to know how pornography may predict relationship confidence over time. Future research is needed to explore the longitudinal trajectories of this relationship outcome while considering mediating and moderating variables.

Strengths

Strengths within our research study include the extension of the literature in exploring how pornography use and relationship confidence are indirectly associated in a nonclinical, young adult sample with depression symptoms and physical assault as mediating variables. Using proper methods of dealing with missing data and structural equation modeling with 5,000 bootstraps, we were able to demonstrate indirect effects along with direct effects while controlling for gender, age, and witnessing parental violence. Specifically identifying the indirect effect from pornography use to depression symptoms to physical assault to relationship confidence broadens our understanding of the research to date. This mediating relationship importantly tells us how pornography use links to relationship confidence, and offers information for places to intervene.

Implications and Future Research

Findings from this study offer important contributions to the literature. Extending what we know about pornography and relationship-oriented outcomes to a sample not seeking treatment can be helpful in better understanding how to address risk factors preceding clinical depression or physical assault. Clinicians working with individuals or couples can have conversations with clients about pornography use and explore how congruent a client's pornography use is with their views about it. Further, clinicians can be mindful about assessing for pornography use when couples present with bleak ideas about the future, especially when one partner presents with depression symptoms. Finally, clinicians and educators should consider ways to address physical assault in couple relationships based on the connections it has to pornography use, depression symptoms, and relationship confidence. For instance, assessments such as the PHQ-9 (Kroenke, Spitzer, & Williams, 2001), those that measure the frequency of pornography use as well as those that get at one's sense of self-confidence in maintaining their romantic relationship would be helpful information for clinicians to have in order to start meaningful conversations about how the client can practice positive coping and regulation skills as preventative measures to physical assault.

These results suggest further need for continued research exploring moderating variables that change one's perceptions about their confidence in maintaining healthy long, term relationships. Because our findings do not fully explore the meaning behind one's pornography use, it will be important to fill that gap in the research. Specifically, it could be helpful to start with qualitative research that gets at the experience of a person who uses pornography. This can inform quantitative studies moving forward. Future research should focus on developing appropriate intervention programs to address pornography use, depression, and physical assault in the context of dating relationships with individuals and couples around the world.

Conclusion

Consumption of pornography is becoming more common in China (Lam & Chan, 2007) and around the world. This growth of pornography use leads us to believe it will continue and initial evidence points to its impact on relationships. Our research findings include how pornography use is indirectly associated with relationship confidence, specifically through higher levels of depression symptoms and physical assault. We should be concerned as researchers, educators, and clinicians about the well-being of those who use pornography and exhibit negative coping skills that put them at risk for perpetrating physical assault. Improved understanding of the ways in which pornography use impacts relationship outcomes is essential for improving our ability as researchers, educators, and therapists to help couples maintain healthy relationships.

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