

# Paratelic/Telic State, Sexual Arousal, and Sexual Risk-Taking in University Students

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Sexually transmitted infections, such as human immunodeficiency virus (HIV), present a serious health concern among young adults. Despite the fact that, in the developed world, much of this population has access (online and otherwise) to a variety of sexual education programs designed to encourage safer sexual behavior, these techniques are still inconsistently implemented in practice. Reversal theory offers a unique perspective on the role of motivational state in sexual decision making. The present study investigated the potential link between sexual arousal and paratelic/telic balance in 152 university students. Telic/paratelic balance was manipulated through the use of sexually arousing stimuli. A strong link was found between paratelic state and sexual arousal such that, as sexual arousal increased, motivation correspondingly shifted toward a more paratelic state. In concert with results from similar studies (Skakoon-Sparling, Shuper, & Cramer, 2013), these findings suggest that the paratelic state may indeed be associated with greater intentions toward risky sexual behavior.

*Keywords:* reversal theory, paratelic-telic, sexual risk taking, sexual arousal, motivation

Despite the variety of sexual education strategies made available to young adults, their condom use remains inconsistent (Rottermann & McKay, 2009), leaving this population vulnerable to sexually transmitted infections (STIs) such as Human Immunodeficiency Virus (HIV). In both Canada and the United States, the HIV infection rate among this population is still increasing (CDC, 2013; Public Health Agency of Canada, 2012). Other STIs are also a significant and increasing health concern, as they pose both an immediate and a long-term health threat (CDC, 2012; Public Health Agency of Canada, 2010). Young adults largely come into contact with STIs and HIV through sexual contact; therefore, understanding the factors that may lead to unprotected encounters is important to the prevention of new infections.

Reversal theory offers an important perspective on the apparent disconnect between the knowledge about safer sex practices that young adults possess (Ariely & Loewenstein, 2006) and their failure to implement it. Reversal theory views personality and motivation as fluid (rather than static) concepts (Apter, 2001). One moment an individual may be in a telic (serious, goal-oriented) state, with their focus on completing a task, such as reading a manuscript; the next moment, a given event – typically an environmental stimulus (Apter, 2001) – may cause them to shift to a paratelic (play-

ful, enjoyment-oriented) state, where they are now reading the manuscript for pleasure, because it is inherently interesting. This shift can change not only how individuals experience a situation and interpret stimuli, but can also affect how they react – affecting the decisions that individuals may make in particular situations at particular times. The reversal between states is involuntary, in that an individual cannot necessarily choose to switch from one state to another (Apter, 2001). In the context of a sexual encounter, the difference between the telic and paratelic states could translate into one's choice between insisting on protected sex versus having unprotected sex.

Research indicates that two meta-motivational dimensions are associated with risk-taking: not only the telic-paratelic dimension but also the negativistic-conformist dimension (Gerkovich, 2001). Individuals experiencing the negativistic state may be motivated to enhance their arousal by breaking rules or defying what is expected of them (Gerkovich, 2001). In a sexual encounter, this could be observed in one's choice to have unprotected sex simply because it is exciting to knowingly engage in this dangerous behavior. The paratelic state may also contribute to risky sexual behavior because an individual in this state will be less concerned with the outcome or long-term consequences of his/her behavior (e.g., an unwanted pregnancy or an STI/HIV infection). Instead attentional focus is drawn to the in-the-moment experience of pleasure and/or intimacy (Gerkovich, 2001). Based on a review of relevant literature, this study focuses on the telic-paratelic meta-motivational state balance as a more salient

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explanation (as opposed to the negativistic-conformist state balance) for typical risky sexual behavior.

A sexual encounter is rife with environmental cues likely to encourage individuals to shift into a more paratelic state where they will be less focused on particular sexual health goals (e.g.: preventing infection) and more focused on enjoying the pleasure of the experience (Gerkovich, 1997). This metamotivational shift could help explain why a young adult, educated about safer sex practices (e.g., barrier use), may fail to use condoms effectively during a sexual encounter with a new partner. A greater understanding of the environmental factors present in a sexual situation that may incite such a paratelic shift would better illuminate this process.

One factor of considerable importance is sexual arousal, which has been previously shown to significantly impact risk-taking and safer sex decision making (Ariely & Loewenstein, 2006; Skakoon-Sparling, Shuper, & Cramer, 2013). Strong feelings of passion and desire (i.e., a strong experience of sexual arousal) are often cited as the reasons for unprotected sex (Boldero, Moore, & Rosenthal, 1992; Patel, Gutnik, Yoskowitz, O'Sullivan, & Kaufman, 2006). Further, it has been found in experimental studies that increased subjective sexual arousal decreases condom use intentions in both men and women (Ariely & Loewentien, 2006; Skakoon-Sparling et al., 2013).

However, little is known about the mechanisms underlying the apparent behavioral/cognitive shifts caused by sexual arousal. If sexual arousal shifts motivation from the goal-oriented telic state into the immediate gratification orientation of the paratelic state, this would explain how sexual arousal impacts safer sex behavior and behavioral intentions. For example, while in the telic state, an individual may formulate and be willing to adhere to the goal of using a condom with any new or casual sex partner; however, while under the effects of sexual arousal, this individual may shift to a paratelic state and become more concerned with enjoying the moment and less concerned with pausing to apply a condom or to engage in condom negotiation. A greater understanding of the factors that can affect spontaneous condom use during sexual encounters will be instrumental for informing programs designed to promote healthy sexual behavior.

Much of the research examining reversal theory's applications to sexual risk-taking has involved retrospective analysis, wherein participants are asked to recall their past behavior, thoughts, and experiences and their dominant motivational state is assessed. However, as Loewenstein (1996) points out, it is more methodologically reliable to study a phenomenon (especially one as subtle and complex as sexual arousal) while a participant is currently experiencing it – in this case, while experiencing higher levels of sexual arousal. Further, by increasing sexual arousal in participants, it was hypothesised that their metamotivational state would correspondingly shift.

Research investigating the manipulation of metamotivational states, like the telic/paratelic balance, have typically utilized methods that vastly changed the situational context of the participants (see Desselles & Apter, 2013 for a review). This methodology is problematic because there may be a host of confounding factors accompanying the various situations employed (e.g., a hockey game versus a doctor's waiting room). Ideally, less dramatic situational manipulations would create a clearer understanding of the shifts between metamotivational states and the meaning that may be derived from them. The present experiment undertook to manipulate telic (goal-oriented) versus paratelic (immediate enjoyment-oriented) states by inducing a paratelic state via sexual arousal. It was hypothesized that participants experiencing higher levels of sexual arousal would shift into a more paratelic state. In this way, we hoped to gain a better understanding of how sexual arousal and metamotivational states may interact. This would be a first step to clarifying the influence of sexual arousal and metamotivational states on sexual risk taking behavior.

## Methods

### Participants

One hundred and fifty-two undergraduate students were recruited using the University of Windsor psychology research pool. The participant pool requires that students complete a short screening questionnaire to determine eligibility for all studies. Eligible participants for this study indicated that they were heterosexual (participants were asked to indicate their gender and their sexual attraction: women, men, both, neither) and sexually experienced (had previously participated in vaginal or anal sex). The data from participants in the experimental condition who did not attain the cut-off level of self-reported sexual arousal (a rating above three on a scale of one to ten)<sup>1</sup> and participants in the control condition who exceeded their cut-off level (a rating above 2) were not included in the final analyses. By these criteria, 17 participants were excluded – 8 women from the experimental condition as well as 5 women and 4 men from the control condition. In total, the data from 135 participants were used: 95 women and 40 men. Sixty-four participants took part in the experimental condition (43 women, 21 men) and 71 in the control condition (52 women, 19 men); participants were randomly assigned to one condition. Demographic data indicated that eliminated participants did not differ greatly from included participants.

<sup>1</sup>An average sexual arousal score that was below the median was chosen as the cut-off because participants tend to underestimate their physiological experience of sexual arousal when asked to report their subjective sexual arousal level (Chivers, Seto, Lalumiere, Laan, & Grimbos, 2010).

Participants ranged in age from 18 to 53 years (mean: 23 years of age, mode: 20,  $SD = 7.09$ ). Forty-two per cent of participants indicated that they were involved in a monogamous relationship, whilst 35% indicated they were single. Sixty-one per cent of participants reported having had sex in the past 14 days and 51% reported that they had not used a condom the last time they had sex. Thirty-three per cent of participants (combined) reported that they typically use condoms “rarely” or “never, while only 28% reported using them “every time”. The mean number of reported lifetime sex partners was 6.5.

## Materials and Procedure

**Pre-test.** Participants completed an online pre-test no less than 24 hours before their in-lab session. This pre-test contained a mixture of target items as well as distracter items. Participants had been lead to believe that they were participating in a study investigating gender differences in film clip preferences. Thus, distracter items requested that participants list their favorite movies and actors and asked participants to indicate (using a Likert scale) the likelihood that they would engage in different non-sexual behaviors (e.g., the likelihood of their requesting a male or female friend’s assistance with either a relationship or a computer problem, or how likely they would be to cheat on an exam). Target items included the *Telic/Paratelic State Inventory – Modified* (T/PSI-M; a copy is included in the supplemental materials on the web page for this article), where participants indicated their subjective mood between two states (on a scale of 1 to 9) using 12 pairs of phrases (e.g. “feeling playful” vs. “feeling serious-minded”). The original scale was validated by O’Connell and Calhoun (2001) and was found to be reliable: Cronbach’s alpha = 0.89. In the format used in pre-test section of the current study, the T/PSI-M was found to be similarly reliable: Cronbach’s alpha = 0.87.

**Videos.** During their laboratory session, participants used a computer to view five randomly ordered video clips. Each clip was approximately two minutes in length. In the experimental condition, the five video clips depicted graphic non-violent consensual sex acts, including oral sex and condom-less penetrative vaginal sex from the Candida Royalle Film, *Under the Covers* (Royalle, 2007). In pilot testing, these video clips were found to be similarly appealing to both women and men. The five non-erotic control videos were non-sexual and non-violent in nature, but depicted interactions between male and female characters from popular television shows and movies (e.g. a clip from the Pixar film *WALL-E* was used; Morris & Stanton, 2008). Clips were presented in random order. Participants viewed either five sexual clips (experimental condition) or five neutral clips (control condition).

**Mood Assessment/Manipulation Check.** Immediately after viewing each video clip, participants completed a “mini

mood assessment,” which included a measure of sexual arousal, adapted from Mayer and Gaschke (1988)’s Brief Mood Introspection Scale. Participants rated their subjective sexual arousal on a Likert scale ranging from 1 (not at all sexually aroused) to 9 (extremely sexually aroused). Each participant’s average subjective level of sexual arousal was used as a manipulation check to ensure that participants did not violate set cut-off levels. Participants were also asked to rate their subjective happiness, anger, and boredom; these other measures were not used to determine cut-off levels as their main purpose was to help disguise the true purpose of the study.

**In-Lab Questionnaire.** After completing each mini mood scale, participants completed a short section (5 items) of a questionnaire, which included the items from the T/PSI-M, as well as distracter items, similar to those presented in the pre-test. In total, this questionnaire consisted of 25 items. All items were presented in pseudo-random order to avoid order effects, but at least two random T/PSI-M items appeared in every set of 5 items. Participants received everything – instructions, questionnaires, and videos – via computer. After completing the study, participants were thoroughly debriefed by a gender-matched experimenter and were given the opportunity to either have their data withdrawn from the study or to provide fully informed consent for it to be included.

## Results

### Sexual Arousal

Statistical significance for all tests was set at .01. The data were analyzed using a series of independent and paired-samples *t*-tests. The first analysis compared the sexual arousal level of the control versus the experimental group; it was found that participants in the experimental condition ( $M = 5.50$ ,  $SD = 1.41$ ) reported significantly higher levels of sexual arousal than participants in the control condition ( $M = 1.44$ ,  $SD = .54$ ):  $t(133) = 22.58$ ,  $p < .001$ .

### Telic/Paratelic Shift

The pre and post-test T/PSI-M scores of participants in the control condition were compared using a *t*-test. Control participants’ scores on the T/PSI-M significantly differed from pre-test ( $M = 5.92$ ,  $SD = 1.45$ ) to post-test ( $M = 5.22$ ,  $SD = 1.26$ ):  $t(67) = 3.12$ ,  $p = .003$ . It is not unreasonable to observe some shift towards a more paratelic state in the control condition, as watching the neutral control video clips was intended to be entertaining, though not sexually arousing (Desselles & Apter, 2013). However, the effect size was relatively small ( $d = .51$ ; Field, 2009) compared to the experimental group.

The pre and post-test data of participants in the experimental (sexual arousal) condition also became significantly

more paratelic from pre-test ( $M = 5.53$ ,  $SD = .64$ ) to post-test ( $M = 4.35$ ,  $SD = 1.43$ ):  $t(58) = 4.42$ ,  $p < .001$ ; resulting in a strong effect size ( $d = .74$ ).

### Sexual Arousal and Telic/Paratelic Shift

The final analysis compared the data of the control group with the experimental group at pre and post-test; no significant difference was found at pre-test ( $p > .05$ ), however a significant difference was found at post-test. Participants in the control condition scored significantly higher (more telic) at post-test than the sexually aroused participants in the experimental condition:  $t(133) = 3.80$ ,  $p < .001$ ,  $d = .73$ . Cronbach's alpha indicated good scale reliability for the experimental group's post-test ( $\alpha = .87$ ) the control group's post-test ( $\alpha = .80$ ), and the pre-test overall ( $\alpha = .87$ ).

A correlational analysis revealed a negative correlation between sexual arousal and telic state ( $r = -.47$ ,  $n = 135$ ,  $p < .01$ ). Thus, participants experiencing lower levels of sexual arousal were more likely to be telic than those experiencing more arousal.

### Metamotivational State and Risky Sexual Behaviors

A two-tailed bivariate correlation revealed a number of significant correlations. A significant negative correlation was found between telic response at the second measurement and reported number of sex partners in the past 6 months ( $r = -.310$ ,  $n = 68$ ,  $p = .01$ ). This suggests that participants, in the experimental and control groups combined, who reported a more paratelic metamotivational state during the study (thus a lower telic score) also reported a larger number of sexual partners in the past 6 months; behavior considered to be risky in terms of sexual health.

### Discussion/Implications

The results of this study clearly demonstrate that sexual arousal and the paratelic metamotivational state are strongly linked. The sexually arousing videos successfully altered experimental participants' telic-paratelic state balance. Participants who on average experienced higher experimentally-produced sexual arousal had correspondingly lower telic scores. A connection between sexual arousal and paratelic state makes sense. In the literature, participant descriptions of their experiences with the effects of sexual arousal seem to mirror the paratelic state: that is, a sense of being overcome by a desire to enjoy the moment and not wanting to "spoil the mood" (Boldero et al., 1992; Gerkovich, 2001; Norris, Masters, & Zawacki, 2004; Patel et al., 2006).

Further, the methodology used in this study mirrors the methodology used in similar studies by our laboratory, examining the effects of sexual arousal on risk taking and intentions for risky sexual behavior (Skakoon-Sparling et al., 2013). This work investigated the effects of sexual

arousal on risk-taking by having participants watch short clips of sexually explicit or neutral videos, and then play blackjack against the computer – participants in the sexually aroused condition displayed significantly greater risk-taking than those in the neutral-video control condition. Sexual decision-making was investigated in a similar manner, but instead of playing blackjack, participants responded to randomized items presenting different hypothetical scenarios. Participants in the sexually aroused condition displayed greater intentions for risky sexual behavior than those in the control condition. Taken together with the current study, these findings seem to suggest that the paratelic shift demonstrated in the current study (accompanied by an increase in sexual arousal) may lead to greater risk-taking, as well as greater intention to engage in risky sexual behavior. Further investigation into a potential link between a shift toward paratelic state and increased intentions for risky sexual behavior is still needed. However this concept corroborates well with findings that suggest individuals who are more paratelic dominant are less concerned with health risks and have lower intentions to prevent risk (Lafreniere, Cramer, & Out, 2005) as well as being more likely to have engaged in risky sexual behavior (Gerkovich, 1998).

Additionally, the correlation observed between telic balance and number of recent (in the past 6 months) sex partners is also in agreement with previous findings (Gerkovich, 1998). In combination with the strong correlation found between sexual arousal and number of sex partners in the past 6 months, as well as between sexual arousal and paratelic/telic state, this seems to provide additional evidence for the relationship between sexual arousal and the paratelic state and risky sexual behavior. It may be that individuals who easily become sexually aroused also shift into the paratelic state more readily and thus may become more willing to engage in risky sexual behavior. The findings of the current study also clearly demonstrate that incorporating reversal theory into our understanding of risky sexual behavior will significantly improve our ability to explain and understand the counter-intuitive disconnect between knowledge about safer sexual practices and their implementation in real sexual encounters.

Importantly, the results of the present study also demonstrate that telic/paratelic state can be manipulated in a very controlled environment, using specifically targeted changes to environmental cues. Participants in both conditions experienced all aspects of the experiment in exactly the same way (in the same room, with the same gender-matched experimenter, using the same computer, answering the same questionnaire items); the only difference between the two conditions was the sexual content of the videos shown. This demonstrates a very simple, targeted methodology for manipulating metamotivational states.

This study was not without limitations. For instance, in order to avoid creating too much test sensitivity, the pre-test

was administered at least 24 hours in advance. This may not have accurately assessed participants' state immediately before beginning the trial.

### Conclusion

The results of this experiment indicate that telic/paratelic state can be modified along with sexual arousal, moving participants towards a more paratelic state. This is a demonstration of a simple method for manipulating motivational states, albeit in one direction only. The methodology used for this experiment mirrors other experiments completed in this laboratory, investigating the effects of sexual arousal on risk-taking and safer-sex behavioral intentions. Taken together, these findings seem to indicate that not only can sexual arousal incite a shift towards a less goal-oriented paratelic state, but that participants in this state are more likely to take risks and have lower intentions towards safer-sexual practices.

At this point it is unclear whether increased sexual arousal causes a shift towards a paratelic state, or whether this connection rests in the environmental cues (i.e. sexually visceral cues: in this case, sexually explicit video clips) that induce both the increase in sexual arousal as well as the paratelic shift; however there is clearly a connection between these two phenomena. Future research should attempt to delve more deeply into this connection. This would allow us to determine the boundaries of this link. Additionally, further development into methods of controlling reversals (as suggested by Apter, 2013) could have great implications for sexual health interventions. If youth could be taught to use cues to reverse their paratelic state toward a more telic state when sexually aroused, this could help them to maintain focus on safer-sex goals with casual or new sex partners.

### References

- Abbey, A., Saenz, C., & Buck, P. O. (2005). The cumulative effects of acute alcohol consumption, individual differences and situational perceptions on sexual decision making. *Journal of Studies on Alcohol*, 66, 82-90.
- Apter, M. J. (2001). An introduction to reversal theory. In M. J. Apter (Editor), *Motivational Styles in Everyday Life* (p. 3-35). Washington, DC: American Psychological Association.
- Apter, M. J. (2013). Developing reversal theory: Some suggestions for future research. *Journal of Motivation, Emotion, and Personality*, 1, 1-8.
- Ariely, D., & Loewenstein, G. (2006). The heat of the moment: The effect of sexual arousal on sexual decision making. *Journal of Behavioral Decision Making*, 19, 87-98.
- Boldero, J., Moore, S., & Rosenthal, D. (1992). Intention, context, and safe sex: Australian adolescents' responses to AIDS. *Journal of Applied Social Psychology*, 22, 1374-1396.
- Centers for Disease Control and Prevention. (2012). *Sexually transmitted disease surveillance*, 2011. (<http://www.cdc.gov/std/stats>)
- Centers for Disease Control and Prevention. (2013). *HIV surveillance report*, 2011; vol. 23. <http://www.cdc.gov/hiv/library/reports/surveillance/index.html>. Accessed: May 9, 2013.
- Chivers, M. L., Seto, M. C., Lalumiere, M. L., Laan, & E. Grimbos, T. (2010). Agreement of genital and subjective measures of sexual arousal in men and women: A meta-analysis. *Archives of Sexual Behavior*, 39, 5-56.
- Desselles, M. L. & Apter, M. J. (2013). Manipulating motivational states: A review. *Journal of Motivation, Emotion, and Personality*, 1, 44-49.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.) London, England: SAGE Publications.
- Gerkovich, M. M. (1997). Understanding sexual risk-taking behavior. In S. Sveback & M. J. Apter (Eds.) *Stress and Health: A Reversal Theory Perspective* (pp. 131 – 142). Washington, DC: Taylor & Francis.
- Gerkovich, M. M. (1998). Modeling sexual risk behavior by heterosexual. (Unpublished doctoral dissertation.) University of Kansas, Lawrence, KS.
- Gerkovich, M. M. (2001). Risk-Taking. In M. J. Apter (Editor), *Motivational Styles in Everyday Life* (p. 215-228). Washington, DC: American Psychological Association.
- Lafreniere, K. D., Cramer, K. M., & Out, J. W. (2005). *Telic/paratelic dominance and the perception of health risks*. Paper presented at the 12th International Conference on Reversal Theory, Winnipeg, MB.
- Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organizational Behavior and Human Decision Processes*, 65, 272-292.
- Morris, J. (producer) & Stanton, A. (director). (2008). *WALL-E* (motion picture). United States: Walt Disney Pictures.
- Norris, J., Masters, N. T., & Zawacki, T. (2004). Cognitive mediation of women's sexual decision making: The influence of alcohol, contextual factors, and background variables. *Annual Review of Sex Research*, 15, 258-296.
- O'Connell, K. A. & Calhoun, J. E. (2001). The telic/paratelic state instrument (T/PSI): Validating a reversal theory measure. *Personality and Individual Differences*, 30, 193-204.
- Patel, V. L., Gutnik, L. A., Yoskowitz, N. A., O'Sullivan, L. F., & Kaufman, D. R. (2006). Patterns for reasoning and decision making about condom use my urban college students. *AIDS Care*, 18, 918-930.
- Public Health Agency of Canada. (2010). *Executive summary – Report on sexually transmitted infections in Canada: 2009*. Retrieved from: <http://www.phac-aspc.gc.ca/sti-its-surv-epi/sum-som-eng.php>
- Public Health Agency of Canada. (2010). *HIV and AIDS in Canada. Surveillance Report to December 31, 2009*.

- Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control.
- Rotermann, M & McKay, A. (2009). Condom use at last sexual intercourse among unmarried, not living common-law 20- to 34-year-old Canadian young adults. *The Canadian Journal of Human Sexuality, 13*, 75-87.
- Royalle, C. (producer, director). (2007). *Under the covers* (Motion Picture). United States: Adam & Eve Productions.
- Suschinsky, K. D., Lalumière, M. L., & Chivers, M. L. (2009). Sex differences in patterns of genital sexual arousal: Measurement artefacts or true phenomena? *Archives of Sexual Behavior, 38*, 559-573.
- Skakoon-Sparling, S., Shuper, P., & Cramer, K. (2013). *Hot and bothered: Sexual arousal negatively impacts male and female sexual risk-taking and decision making*. Manuscript submitted for publication.