

Sexualized Music's Effect on Adolescent and Emerging Adult Behavior: a Meta-Analysis

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SEXUALIZED MUSIC'S EFFECT ON ADOLESCENT AND EMERGING
ADULT BEHAVIOR: A META-ANALYSIS

by

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A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Psychology
in the Colleges of Sciences
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ABSTRACT

Reports on sexual activity among U.S. adolescents have shown a rise in their seriousness (Martino, Collins, Elliott, Strachman, Kanouse, & Berry, 2006). Such young sexual initiation is seen as a predictor of overall riskier sexual behavior such as having a multitude of sexual partners, not using any protective birth control and taking part in unwanted sex (Brown, L'Engle, Pardun, Guo, Kenneavy, & Jackson, 2006; Martino et al., 2006; Parkes, Wight, Hunt, Henderson, & Sargent, 2013; Price & Hyde, 2009; Primack, Douglas, Fine, & Dalton, 2009; Steinberg & Monahan, 2010). It is apparent that such riskier sexual behaviors result in higher rates of STI's and unwanted pregnancies (Brown et al., 2006; Parkes et al., 2013; Price & Hyde, 2009; Primack et al., 2009; Martino et al., 2006; Steinberg & Monahan, 2010).

In September 2007, the United States Congress held a hearing on the gravity of sexual music content and their relationship to risky sexual behavior (Kistler & Lee, 2009). Recognition has also been found through studies including some self-reported, concluding that young populations seek out entertainment media to facilitate as a tool of insight into personal development in the areas of sexual norms, and as a means of reference in establishing their own identities (Brown et al., 2006; Coyne et al., 2013; Coyne & Padilla-Walker, 2015; Primack et al., 2009). Music has been suggested to have the largest personality developing influence when compared to other media forms (Primack et al., 2009). Being that adolescence is the time of accepting or rejecting normalizations, including those distorted, (Turner, 2011) it remains a subject group that provides great value to this study.

An organized computer search was directed with the assistance of MedLine, PsycINFO, Communications, and Mass Media in April and May 2017 in search of relevant articles. From here strategic elimination of those without inclusion criteria were made. The remaining data was coded and assessed through the Comprehensive Meta-Analysis (CMA) software program. Although, suitable to both random and fixed effect models, only random models were reported in accordance to Hunter and Schmidt's (2005) argument on population variation. Positive effects signified associations with music in the form of lyrics or video and that to sexual behaviors. All studies presented said positive relationship in support of the music as sexual behavior indicator perspective.

Generally, music is not something people are thinking critically about (Burgess & Burpo, 2012) bringing light to the closer but still not reached need in media literacy education. This is essential as it is not realistic to expect media to stop selling sex, therefore the responsibility for change lies in those who can use this knowledge to promote its awareness and ultimately help our youth become better prepared for making healthy, responsible deductions out of the sexually clad music we all enjoy. It is true that the wheels are already in motion (Wright et al., 2016; Wright, Dillman Carpentier, Hopper, & Warburton, 2017); the goal of this study was to keep up its momentum to continue propelling the movement forward.

DEDICATION

For all those who continue to fill me
with overwhelming support and love,
Especially to my mom who would move mountains for me,
and my dad and step mom who lovingly taught me to never give up.

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I would like to express my deepest gratitude to Dr. Chrysalis Wright, my mentor and motivator. I am so thankful for all the unmeasurable help you have given me and the support that has shown me how capable I truly am, your kindness and encouragement will last in me long after graduation.

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CHAPTER ONE: INTRODUCTION

Sexual activity among youth in the U.S. has been admittedly reported as a serious problem (Martino, Collins, Elliott, Strachman, Kanouse, & Berry, 2006). Unfortunately, two thirds of these sexually active teenagers have admitted that they regret not having prolonged the wait. Regrets aside, an early sexual initiation is also shown to be a predictor of riskier sexual behavior which could include not using condoms or any another form of birth control, having multiple sex partners and in many cases even participating in unwanted sex (Brown, L'Engle, Pardun, Guo, Kenneavy, & Jackson, 2006; Martino et al., 2006; Parkes, Wight, Hunt, Henderson, & Sargent, 2013; Price & Hyde, 2009; Primack, Douglas, Fine, & Dalton, 2009; Steinberg & Monahan, 2010). Such early sexual initiation can therefore lead to other issues such as higher rates of STI's and unwanted pregnancies (Brown et al., 2006; Parkes et al., 2013; Price & Hyde, 2009; Primack et al., 2009; Martino et al., 2006; Steinberg & Monahan, 2010).

According to the Center for Disease Control and Prevention (2006) there are 750,000 adolescent pregnancies each year, and almost half of newly diagnosed STI's are among adolescents as well (Price & Hyde, 2009; Primack et al., 2009). In 2006 the American Academy of Pediatrics referenced studies to warn parents on the dangerous connection between rates of unwanted pregnancies as well as STI's and sexual media (Steinberg & Monahan, 2010).

The growing concern regarding sexual content in popular music and videos as well as their relation to risky sexual behavior led to a hearing of the United States Congress in September of 2007 (Kistler & Lee, 2009). Parental advisory labels have been around since the 1980's (Sprankle & End, 2009) and draw attention to the need for further control (Wright,

Hopper, Dillman Carpentier, Knobloch-Westerwick, Greyson, & Stephens, 2016) but additional restrictions are limited. These testaments draw the conclusion that it is not newly discovered that such sexual content in music is at best inappropriate for some younger, perhaps more impressionable audiences, and at worst could be guiding them towards behaviors that are risky for their health. A study seeking out predictors for multiple numbers of sexual partners in emerging adults found viewing MTV to be the largest predictor in females, and the fourth largest predictor in males (Sprankle & End, 2009). Three out of four young adults watch MTV as part of their daily routine (Turner, 2011). More than one third of the top listened to songs have sexually encouraging references with two thirds considered degrading (Martino et al., 2006; Primack et al., 2009; Wright, 2013; Wright & Brandt, 2015; Wright & Qureshi, 2015). In addition, 70-90% of songs have been found to have sex-based themes making the serious presence of sexual content in music undeniable (Coyne & Padilla-Walker, 2015).

Theoretical Framework

In support of the hypothesis, previously examined theories in this area of research were revisited as to maintain consistency and also due to their extreme prevalence in circumstance. Of these, the three theories this study is grounded in are social cognitive theory (SCT) and cultivation theory, both considered alongside message interpretation process model (MIP).

Social cognitive theory (SCT) could argue that practically anything watched could become “instructional” to viewers so long as the model assumptions have been met (Bandura, 2002; Kistler & Lee, 2009; Martino et al., 2006; Turner, 2011). It has been considered that viewing music videos could have this effect and may be increasing risky sexual behavior.

Furthermore, this is happening without the young adolescent or emerging adult realizing that their actions could be dangerous or truly anything other than “normal”.

SCT (Bandura, 2002) is the ability for individuals to learn through simple observation of those referred to as *models*, even without experiencing these actions themselves (Kistler & Lee, 2009; Sprankle & End, 2009; Turner, 2011; Ward & Coyne, unpublished). Its roots lie in the strength of repetition, in which music is known to be quite repetitive by nature (Burgess & Burpo, 2012). It is both, said repetition and long-term exposure, that have drawn conclusions that such content could end up being a surrogate in vicarious and abstract modeling resulting in distorted sexual norms (Kistler & Lee, 2009; Ward & Coyne, unpublished). Vicarious modeling is when the *models* are parents, peers and educators; however, media characters have also been added to this category, as previously recognized (Bandura, 2002). Ultimately, the actions modeled are ones that fit easily into the observer’s reality, such as what will be explained as the *super peer*. Abstract modeling has a focus on *rules of behavior* instead that allows these observations to trickle over from televised fantasy into a reality (Turner, 2011). These new rules are then applied to the observer’s reality. This can be something such as “sex is casual” or following ideations that play into rape myth beliefs and sexual scripts which all have effects on attitude and therefore, suggestively also behavior (Aubrey et al., 2011; Johnson & Ross, 1989; Kaestle et al., 2007; Kistler & Lee, 2009; Malamuth & Check, 1981; Ward & Coyne, unpublished; van Oosten, Peter, & Valkenburg, 2015).

MIP is the breakdown of how an individual goes from viewing a message through entertainment media to either accepting it as a *norm*, or rejecting it (Radanielina-Hita, 2014). As previously mentioned regarding SCT, the observer is more likely to accept a behavior that is

projected by a model that is similar to them, realistic, or otherwise perceived as normal (Turner, 2011) this is also true in MIP (Radanielina-Hita, 2014). This is pertinent when discussing the *super peer* because it is a testimony to the realistic embodiment portrayed through music media (Brown et al., 2006; Coyne & Padilla-Walker, 2015; Turner, 2011).

However, according to MIP, this connection can be falsified using attractive or sexually appealing actors and content, creating a disadvantage for those who argue there isn't enough of a personal connection to all viewers with a character on media to serve as a proper model, let alone a *super peer* (Radanielina-Hita, 2014; Ward & Coyne, unpublished). Cleverly, MTV is full of nothing, if not gorgeously made-up and glamorized people, providing the perfect models for young adolescents and emerging adults to idolize and copy (Turner, 2011). It has been said that these impossible and exaggerated levels of attractiveness are intentional to create a yearning in viewers, resulting in a *model* relationship rather quickly and it is accepted that such consistent exposure does predict eventual mimicked behavior. In addition, those who aren't successful in critically examining media's content are highly susceptible to this occurrence and therefore will more readily accept such portrayals (Radanielina-Hita, 2014). It has been discovered that most people do not think critically in the area of music (Burgess & Burpo, 2012) suggesting the potential for prevention that has yet been tapped into to its fullest extent. A growing recognition of the demand in media literacy education has emerged (Wright et al., 2016; Wright, Dillman Carpentier, Hopper, & Warburton, 2017) and serves as a reminder that although this field has a long way to go, it is no longer entirely in the dark.

Cultivation theory has many similarities to SCT; however, its main focus is on how frequency of exposure and consistency can create the crossover from something that is theatrical

fiction to being perceived as reality (Sprankle & End, 2009). It has been previously suggested that established sexual norms are a drive for behavior making their relevance seem undeniable (Kaestle et al., 2007). The connection has also been made that the media influences the beliefs that form these norms, such as encouraging sexualized attitudes and permissive sexual norms which have led to risky sexual behaviors such as early sexual initiation (Brown et al., 2006; Parkes et al., 2013; Sprankle & End, 2009; van Oosten et al., 2013).

Cultivation theory, perhaps most importantly, supports the idea of learning through the acceptance of perceived sexual norms due to overestimation of peer behavior (Brown et al., 2006; Radanielina-Hita, 2014; Sprankle & End, 2009; Yanovitzky & Rimal, 2006). A part of adolescent development is establishing such norms; the problem is when they become distorted but are accepted as undistorted (Turner, 2011). The belief in relation to cultivation theory is that the media normalizes something that isn't traditionally *normal* by means of overexposure and that this leads to the assumption that what is being seen on media is the actual norm or ordinary way of doing (Brown et al., 2006; Coyne & Padilla-Walker; Sprankle & End, 2009; Ward & Coyne, unpublished). This overestimation of sexual activity in peers has been found to be a large influence on the decision making of an adolescent's own behavior (Brown et al., 2006; Radanielina-Hita, 2014; Yanovitzky & Rimal, 2006) making incorrect normalization a root of the very problem.

It has been found that adolescents who watch music videos often overestimate their peer's frequency of sexual behavior (Coyne & Padilla-Walker, 2015). This could be for a number of reasons. One is that MTV arguably encourages a permissive attitude on sex and also exaggerates the frequencies of sexual behavior through a fantasy projection that is often accepted

by adolescents and emerging adults as reality (Brown et al., 2006; Sprankle & End, 2009). This perception of overestimation is a big issue because it has been self-reported by adolescents who engaged in sexual behavior that they did so because their friends were all engaging in sexual behavior, establishing overestimation as a predictor of early initiation (Brown et al., 2006). This is also supported by MIP which established an increased likeliness of behavior if that person believes it is what a popular group, such as their peers, are doing (Yanovitzky & Rimal, 2006).

The notion that *social context* is perhaps even more important than the actual material has been brought up before (Parkes, Wight, Hunt, Henderson, & Sargent, 2013); however, it is likely a combination of multiple factors. Co-viewing with peers, especially those of a different sex has shown an association with increased sexual behavior. For these reasons, it is sensible that the observations of a model through explanation of SCT combined with the normalization of distorted norms made possible by overestimation of peer activity supported by cultivation theory, all accepted as norms with the understanding of MIP fits with this study's hypothesis.

An Impressionable Time in Development

For the purposes of this study any reference to age was placed between the group of 13 and 25 years old. During this time of adolescence through emerging adulthood, there is much self-discovery and the identity of the individual is still being developed (Coyne, Padilla-Walker, & Howard, 2013). This is especially true in the area of love and sexuality, as well as establishing what is acceptable to an individual on a moral standpoint (Coyne et al., 2013; Coyne & Padilla-Walker, 2015; van Oosten et al., 2015). It has been largely recognized as well as self-reported from this population that these young individuals have sought out various forms of media

purposed for entertainment as their outlet of insight into personal development specifically about sexuality and sexual norms, and as a means of reference in establishing their own identities (Brown et al., 2006; Coyne et al., 2013; Coyne & Padilla-Walker, 2015; Primack et al., 2009). Of these media outlets, music in particular has shown largest in popularity among personal selection of media for perceived educational value. It has been previously hypothesized that this could be due to the availability of choice given to the listener's selection, allowing them a more personalized decision in who they are striving to become (Coyne et al., 2013) however, this is only a partial truth in that at this age a decision such as what music to listen to, isn't always a strictly personal one but is established through peer norms and friend group preferences (Brown et al., 2006; Yanovitzky & Rimal, 2006). Testaments have been made that music is so large a component of the lives of teenagers that they are difficult to understand apart from their musical selection, enmeshing the idea that not only do teens draw from music their identities but also that the role music plays in their lives to them, must be considered in order to really understand that individual's value placement on it (Martino et al., 2006). It has also been said that music has the capability to persuade long term personality traits such as an individual's perception towards the world (i.e. establishing norms or accepting distorted norms) and support risky sexual behaviors like early sexual initiation (Coyne & Padilla-Walker, 2015; Parkes et al., 2013; Primack et al., 2009; Wright, 2013; Wright & Qureshi, 2015) and multiple sexual partners (Coyne et al., 2013; Turner, 2011). It has also been suggested that music has the largest personality developing influence over other forms of media (Primack et al., 2009).

This age group has been re-named "Generation M" for media due to the excessive interest in media and exposure that they receive (Coyne et al., 2013; Rideout, Roberts, & Foehr,

2009). Generation M may be using medias such as music as a guide not only in personal identity development but also for instructional purposes about sex (Brown et al., 2006; Kistler & Lee, 2009; Rideout et al., 2009; Wright & Qureshi, 2015). In fact, the Kaiser Family Foundation (2001) declared that this age group themselves, ranked media as a primary source for them in the area of sexual education (Kaiser Family Foundation, 2001; Kistler & Lee, 2009). This could be because adolescents are less likely to seek out information from their parents or a teacher (Coyne & Padilla-Walker, 2015). Similarly, it is being recognized that parents aren't too likely to bring up these kinds of sexual conversations with their children either, out of embarrassment and discomfort that they themselves feel (Matlin, 2012). In addition, more education systems are practicing abstinence instead of sex safety, avoiding the discussion altogether, which has been shown to be highly ineffective and even resulting in more instances of risky sexual behaviors. Even disputing author Ferguson (2016) claims that media may become the only source of sexual information when youth does not have proper socialization and it has been recognized that although improving (Wright et al.,2017), very few educational options exist at an adolescent's disposal (Ward & Coyne, unpublished).

Establishing Normalizations

Marginally the issue seems to be the normalization of these behaviors. Exclusion of conversation and failing to confront such exploitations for what they actually are potentially teaches students and adolescents that this kind of behavior is accepted and therefore normalized (Parkes et al., 2013). This punishment component, or lack thereof, is consistent with social cognitive theory (Ward & Coyne, unpublished) and the enjoyment received by adolescents and emerging adults could serve as a positive reinforcement every time they relax with music and

their videos (Kistler & Lee, 2009) as well as in when they observe said models receive good outcomes as results of such behavior.

Some believe this allows the manifestation of a different problem, known as *dwarfing* (Primack et al., 2009). Dwarfing is a result of the exposure to sexual content messages in media. Suggestively the prevalence of these explicit messages minimizes what is being taught by educators and by definition, replaces the consequences of these actions with things such as feelings of acceptance. This could be due to the large amounts of such suggestive media, in comparison to the much smaller amount of provided information schools or parents are offering, if any, enabling the media's message to metaphorically drown out the lessons taught. Thus, offering a sex education that is full of useful information might not be enough if it isn't also drawing attention to these other factors that encourage students to take in media more critically, preparing them for media production techniques and how to essentially think for themselves (Radanielina-Hita, 2014; Wright et al., 2017).

An inadequate sexual education and parents who aren't actively communicating such issues with their children are only two possible explanations that lead Generation M individuals to seek their information elsewhere, like music and other forms of media. With music becoming the growing choice of sexual education, it has given rise to a music-as-teacher normality that has been named the *super peer* (Brown et al., 2006; Coyne & Padilla-Walker, 2015).

The idea of music as a *super peer* is alarming in that it provides potential with the familiarity it brings to the viewer. Social cognitive theory favors a model with a more personal connection, thus such a personification of music therefore increases modeled behavior likeliness

(Brown et al., 2006; Turner, 2011). This is only one component on how these entertainment forms act as actual role models (Kistler & Lee, 2009). In fact, even without the *super peer* title, Bandura (2002) believed that a figure from the media could play as a surrogate for a model that would normally be represented by a parent, teacher, or peer.

Previous Research

Teens who take in more media regularly also felt more *sexual encouragement* from it and even reported, as a result, having had intentions of acting on this with sexual behavior, specifically intercourse (Kistler & Lee, 2009). It appears media consumption and sexual behavior have a preexisting relationship, however looking into the fact that emerging adults spend more time using media than any additional activity each day, even sleeping and time spent at school, volume of consumption is put into perspective (Coyne et al., 2013).

Burgess and Burpo (2012, p.11) concluded that “Media that is available with virtually no restrictions to young adults and children has clear effects on their sexual choices and not for the better.” Although this is merely the position of Burgess and Burpo (2012), it is true that such negative effects have been found that include the strong relationship of adolescent sexual media viewing and near future initiations afterwards (Brown et al., 2006; Kistler & Lee, 2009; Martino et al., 2006; Sprankle & End, 2009). The effects of such early sexual initiation as previously mentioned are of very negative consequence, its prevalence is supported by the fact that one fourth of all U.S. female adolescents have STI’s (Primack et al., 2009) and the U.S. also has one of the highest rates of teen pregnancy (Wright & Qureshi, 2015).

It has been recognized that some musical genres are more packed full of sexual content than others are, those in the lead of having the most are rap and hip hop (van Oosten et al., 2015). Rap has been found to affect behaviors involving violence against women (Johnson, Adams, Ashburn, & Reed, 1995) and promotes misogyny (Aubrey, Hopper, & Mbure, 2011), which can lead to many distorted sexual norms or beliefs (Kaestle, Halpern, & Brown, 2007; Johnson, Adams, Ashburn, & Reed, 1995). Another study discovered that adolescents who had a higher exposure to rap videos were twice as likely as those without such exposure to have multiple sexual partners (Turner, 2011). In fact, one analysis recounted that teens who favored rap and hip hop over other genres were more likely to testify that they believed “teens should be having sex” (Kistler & Lee, 2009). With these findings in mind, it is critical to also understand that 65% of those aged 13-18 choose hip hop as their favorite genre. Although the majority of past analyses have found that consumption frequency does matter, it has been found that “even brief” viewings of such sexualized content and stereotyped gender misinformation through music videos can still leave a big impact on one’s sexual attitude (Turner, 2011).

Attitude

Previous research, (Kaestle et al., 2007; Kistler & Lee, 2009) has also shown that attitude does affect behavior; suggesting that the independence of these two terms is less than previously admitted by many. Martino et al. (2006, p.3) wrote that “These attitudes, expectations, and norms may in turn, play a role in adolescents’ sexual decision-making and behavior”. This has been found to be true specifically in the area of rape myth in which attitudes that support norms that fail to reject rape were directly correlated to taking part in actual rape as was discovered in a group of 7th and 8th grade adolescent boys (Kaestle et al., 2007). Another analysis concluded that

enjoying rap as a genre of music resulted in rape myth acceptance also to the extent of self-reports from fans admitting they were likely to engage in such *norms*, as rape (Johnson et al., 1995). Parkes et al. (2013) states sexual attitudes are “conductive” to early sexual initiation and other risky sexual behaviors. In addition, attention should be made to the very instances in which by definition, a *sexual permissive attitude* is found to be an indicator of such risky sexual behaviors as early sexual initiation and premarital or casual sex (Brown et al., 2006; Kistler & Lee, 2009; Sprankle & End, 2009; van Oosten et al., 2015) the same connection has been made for *permissive sexual norms* (Parkes et al., 2013) which could arguably be synonymous. These studies reinforce the notion that not developing norms that reject rape, ultimately promote it (Aubrey, Hopper, & Mbure, 2011; Kaestle et al., 2007).

The seemingly obvious connection that attitude is a contributing factor towards behavior aside, emphasis must be made that the bigger connection is that sexual content in music videos promote negative attitudes such as rape myth and other distorted sexual norms (Aubrey et al., 2011; Turner, 2011). This is often done so directly with examples of blatant rape myth such as *token resistance* (van Oosten et al., 2015). *Token resistance* is the encouragement of females not having a voice in the matter of sex and follows the *script* that a female should say “no” even when she means “yes.” This conversely indicates that when a female does say “no” what is really required is more of an effort from the male pursuer to encourage her to get past *token resistance*. The belief of *Token resistance* was shown to increase in female adolescents after the viewing of rap music videos.

The promotion of distorted sexual norms is also accomplished indirectly in such music videos by maintaining other things that have been shown to feed into these same mentalities that

are related to behavioral actions such as sexual scripts, female objectivity, and other degrading content (Aubrey et al., 2011; Martino et al., 2006; Radanielina-Hita, 2014; Turner, 2011; Ward & Coyne, unpublished; Wright et al., 2016). This can be as simple as using excessive skin exposure and positioning of women to support the women as sex object stereotype (Brown et al., 2006; Turner, 2011; van Oosten et al., 2015). Music tells stories of an “idealized world,” thus providing a *script* that is possibly being followed by viewers (Burgess & Burpo, 2012).

This dilemma has been described as being unfortunate on the same scales as pornography in that it rids females of their voice and solidarity by consistently putting women down and degrading them openly in music videos (Burgess & Burpo, 2012). In addition, it has been identified that the objectivity of women portrayed in pornography is the visual emphasis, which is also present in many music videos, that leads to sexually motivated behavior (Aubrey et al., 2011). An additional relationship was found showing that the more music video consumption a teen had, the more likely they believed in sex-role stereotypes such as objectification (Burgess & Burpo, 2012, Wright et al., 2016). Stereotypes are often dangerous because they are rarely accurate and they set guidelines that people will try to uphold (Matlin, 2012).

In support of this concept, past research has found that *skanky* music video viewing was consistent in the promotion of the viewer having less severe judgment towards the male rapists afterwards and also less empathy towards the victim; in agreement to the rape myth that fits the “just-world phenomenon,” which is supportive to the mentality that she got *just* what she deserved or was asking for (Burgess & Burpo, 2012). Finally, such rape myth acceptances can be categorized as being distorted sexual norms (Kaestle et al., 2007; Turner, 2011).

Current Study

The intent of the current study was to conduct a meta-analytic review of research in the area of sexual content in music and sexual behaviors among adolescent and emerging adult consumers. It was hypothesized that sexual content in music lyrics and videos would be associated with increased risky sexual behaviors among both adolescents and emerging adults. The focus here was on behavior, which sets this study apart from many others that previously focused on attitude alone. It is arguable that attitude leads to behavior; however, this cannot be proven without a doubt. Because there have been correlations that do testify to this relation, past research on attitudes was also included briefly throughout the study and recognized as potentially supportive material.

Although a majority of past research has focused more on attitude results than behavioral, there is still a large bulk of past research that draws conclusions that are in agreement with the hypothesized correlation on sexualized media with that of young adolescent to emerging adults increase in risky sexual behavior (Coyne & Padilla-Walker, 2015; Parkes et al., 2013; Price & Hyde, 2009; Primack et al., 2009; Sprankle & End, 2009; Ward & Coyne, unpublished; Wright & Brandt, 2015). However, to date there are no meta-analytic reviews in the likes of this one, on the behavioral influence of sexual content in music. Most meta-analyses in this area tend to combine music media with other forms of media, compiling all media forms together instead of viewing each individual effect on a closer scale.

There is a great lack of information on music compared with other forms of media in this field of study, believed to be due to the quantities of variation in styles and great number of music available (Coyne & Padilla-Walker, 2015; Steinberg & Monahan, 2010; Wright et al.,

2017). This is interesting considering its highly reported use in identity development of adolescent and emerging adults (Brown et al., 2006; Coyne et al., 2013; Coyne & Padilla-Walker, 2015; Primack et al., 2009; Wright et al., 2017) and for learning (Coyne et al., 2013; Coyne et al., 2015; Martino et al., 2006; Primack et al., 2009; Ward & Coyne, unpublished). In fact, of all the music video fans, the most frequent viewers are adolescents (van Oosten et al., 2015), they are also the most frequent consumers of music in the area of listening (Wright et al., 2016). In addition, music videos were found to be less gender specific than other forms of media such as video games and sports, providing a necessary consistency for study (Burgess & Burpo, 2012). Although some sources found that TV was a prominent form of media in the lives of adolescents (Price & Hyde, 2009) music videos are actually a favorite TV genre among adolescents and it is also relevant to point out that by age 15; music videos become a much more exercised media than TV (Aubrey et al., 2011). It is also relevant that sexual imagery is much more common in music lyrics than on television (Roberts, Henriksen, & Foehr, 2009; Steinberg & Monahan, 2010; Wright & Qureshi, 2015) and that TV and movie exposure is on the decline (Primack et al., 2009), whereas music access is on the rise (Primack et al., 2009; Wright et al., 2017), and bringing with it an increase in sexual prominence (Turner, 2011).

It is important to note that there has been previous research that led to null-hypotheses (e.g. Gottfried, Vaala, Bleakley, Hennessy, & Jordan, 2013) as well as contradicting interpretation of results. There was consideration towards the possibility of researcher bias such as in the case of only seeking out materials that support the researcher's hypothesis (Kistler & Lee, 2009). Some instances, such as with research by Ward and Coyne (unpublished) and Ferguson, Nielsen, and Markey (2016) occur in which each conducted a meta-analysis on sexual

media and their outcomes concluded very different discussions when in fact the numerical figures were not so far off. This suggests that in leaving the interpretation up to the authors, who seemingly had differing opinions, lead to opposing results that were, measurably equivalent. In addition, past research has found differences of variables and discrepancies in results have occurred, such as discovered inadequate key-matching in reanalysis of Steinburg and Monohan (2011) in their attempt to dispute the previous work of Brown and colleagues (2011) out of an investigation of such disparity (Ward & Coyne, unpublished). Vast limitations in each study exist that must be recognized from both viewpoints and opposing research has supported the selective exposure perspective in which the bias is not in the researcher but already preexisting in the taste of the adolescent who is choosing their musical preference off of their already established stereotypes and interest in sexual content that is projected through their genre selection (van Oosten et al., 2015). Arguably there is a general agreement that supports the still developing beliefs at this age and so this former establishment appears unlikely.

There is hope in identifying means of prevention by first starting with recognizing the circumstance for what it is. One goal of this meta-analysis was to shed light on why past research has had such inconsistent results on this area and to come to one conclusion that can hopefully lead to change. It was hypothesized that music videos that exhibit sexually explicit visuals and other sexual content, such as degrading lyrics, lead to an increase in risky sexual behavior among adolescents and emerging adults.

CHAPTER 2: METHOD

Literature Search Procedures and Selection of Studies

A systematic computer-based search was conducted through MedLine, PsycINFO, Communications, and Mass Media in April and May 2017 to search for relevant articles. There were no restrictions on geography or culture in which studies were conducted. However, the time period of publication was limited to 2000 to 2017. The following search terms were used: “adolescent or youth,” “emerging adult,” “sexual attitude,” “permissive attitude,” “rape myth,” “sexual behavior,” “sexual initiation,” “risky sexual behavior,” “sexual intercourse,” “sex,” and “music.” For a study to be included in this meta-analysis it must have meet the following criteria: (1) Each study must measure the influence of some aspect of music (e.g., lyrics, videos) on an outcome related to sexual behavior. Other forms of media, including pornography, were not included in this study. Both sexual attitudes and behaviors were included as outcomes; (2) Each study must present statistical outcomes or data that could be used to determine the effect size r ; (3) Participants in the study must be classified as adolescents (e.g., age 13-17) and/or emerging adults (e.g., 18-25). Longitudinal studies that began during adolescence and extend into emerging adulthood were included; (4) Each study must be written or translated in English to be included in this study.

The initial search returned approximately 182 hits, the majority of which (166) did not meet the inclusion criteria above. Employing the inclusion criteria, the final search obtained 16 published papers including among them 21 separate controlled effect size estimates, with total participants $n = 14,420$. Information regarding articles selected can be found in Table 1.

Coding of Studies

Each study was coded for outcomes related to sexual attitudes and/or sexual behavior. Sexual attitudes include permissive attitudes and rape myth acceptance. Sexual behaviors include timing of sexual initiation, engaging in risky sexual behavior, and general sexual experience. The sex of each study sample was coded based on the percent of males in the study. Age of participants was classified as either adolescent (e.g., 13-17) or emerging adult (e.g., 18-25). If grade level or college year was included in the study, it was coded by the average age of typical students in that grade level or college year. The location of each study was also coded based on country of participant collection (e.g., Australia, United States, etc.). The ethnicity of participants in each study was coded based on the majority of the sample participants (e.g., White, African American, Hispanic, Asian, Multiple groups, Other). The form of music was coded as music lyrics, music video, and music lyrics and videos. Each study was also coded based on the research design of the study (e.g., correlational, longitudinal, cross-sectional, experimental, quasi-experimental). Each study was also coded for publication year and status.

Estimating Effect Size

In the present analysis, controlled effect sizes (i.e. standardized regression weights) were examined. The effect size r was used in this analysis both due to the inclusion of numerous longitudinal and correlational effect sizes in the analysis and because r is a straightforward effect size and easy to interpret. Additionally, considering that confounding variables may exist, Savage and Yancey (2008) argued that controlled effect sizes are the preferred inclusion for meta-analyses. While many studies reported regression weights or correlational results, the

results of other studies had to be converted to r prior to analysis (e.g., odds ratio, f , eta-squared, t , M and SD).

For the present analysis, some studies reported more than one effect size that were relevant to a single underlying construct (i.e., multiple measures of sexual behavior). When this occurred, they were aggregated for a single average effect size that was included in analysis. Additionally, a few studies reported non-significant findings. While most of the time no effect size was provided, if an effect size was included it was entered in the current study as 0 (null effect), considering that results were nonsignificant.

Studies were also coded for important information that could influence the impact of music media on sexual behaviors based on previous literature. These included the type of music media included in the study as the independent or predictor variable (i.e., lyrics, videos), the age of participants (i.e., coded as 1 = adolescent (13-17) and 2 = emerging adult (18-25), and ethnicity (e.g., White, African American, Hispanic, Asian, Multiple groups, Other). The location of data collection and type of research study were also examined.

Analysis

The Comprehensive Meta-Analysis (CMA) software program was used to fit both random and fixed effect models. Hunter and Schmidt (2005) argue that random effects models are appropriate when population parameters may vary across studies. Therefore, only random effects are reported. Due to the nature of the predictor and outcome variables in this study, positive effects represented associations with aspects of music and sexual behaviors. Both moderator variables and publication bias were also assessed. Additionally, all results discussed below were coded such that positive effect sizes represent associations with negative outcomes.

CHAPTER THREE: RESULTS

Overall Effect

Results for all studies on the main outcome variable, sexual behaviors, can be found in Table 2. The overall mean effect size estimate (r) of music lyrics and videos on sexual behaviors was found to be .09. This effect was significantly different from zero, $k = 20$, $Z = 5.27$, $p < .001$. Additionally, all of the studies showed a positive relationship between sexual content in music and sexual behaviors.

Single Study Sensitivity and Publication Bias

The disproportionate influence of single studies on the overall effect was examined by reconducting the meta-analysis 19 times with a different study removed each time. The mean effect size estimate in these estimates ranged from .08 to .10. The fact that these estimates were not substantially different from the overall effect size of .09 indicates that no single study made a disproportionate contribution to the overall effect.

The possibility of publication bias was also examined. A funnel plot that included study precision ($1/\text{standard error}$) on the y axis and Fisher's Z on the x axis. In this plot, larger, more precise studies typically cluster closer around the mean effect than smaller, whereas, less precise studies, which tend to spread out toward the bottom of the plot (for details, see Borenstein et al., 2009, p. 283). Publication bias is likely if less precise studies with smaller than average effects are missing from the bottom left of the plot. In the present case, no indication of publication bias was found.

Moderation Effects

A Q test of homogeneity of variance indicated significant heterogeneity among correlations, $Q_w(19) = 75.24, p < .001$. Consistent with this, the I^2 (Higgins & Thompson, 2002) indicated that a somewhat large percentage (74.75%) of the variation in effect sizes between studies was due to systematic variation, rather than random sampling error. As such, moderator variables were examined.

Music Type

Studies were compared based on music type (i.e., lyrics, videos). No significant differences were found, $Q_B(1) = 0.28, p = .60$. There was little variation in the effect of music type. The effect of music lyrics ($k = 13, r = .09, Z = 3.71, p < .001, 95\% \text{ CI } [.04, .14]$) was slightly lower than that of music videos ($k = 7, r = .094, Z = 3.82, p < .001, 95\% \text{ CI } [.05, .14]$). Note that the confidence intervals for music lyrics and videos overlap substantially, indicating that this null result did not indicate a Type II error.

Participant Ethnicity

Studies were also compared based on participant reported ethnicity (i.e., white, African American, Hispanic, combined). There was a significant moderating effect of ethnicity on sexual behaviors, $Q_B(3) = 14.42, p = .002$. Studies where the majority of participants were white obtained the smallest effect in comparison to the other ethnicities examined ($k = 14, r = .07$). However, this effect was significant ($Z = 3.35, p < .001$). Studies containing participants of multiple ethnicities (e.g., white, African American) has the second lowest effect ($k = 1, r = .12$). This result was also significant ($Z = 3.95, p < .001$). Both studies with African American ($Z =$

6.10, $p < .001$). and Hispanic participants had the largest effect compares to the other ethnicities examined ($k = 3, r = .16$; $k = 2, r = .16$, respectively). However, the effect for the Hispanic ethnicity was the only effect to be nonsignificant ($Z = 1.82, p = .07$).

Participant Gender

To investigate whether participant gender moderated the size of the relation between sexual content in music and sexual behaviors, a metaregression analysis was conducted. There was no significant relation between the percentage of male students in each study and the size of the relation, $\beta = .0006, Z = .67, p = .50, \tau^2 = .0045, 95\% \text{ CI } [-.0011, .0022]$.

Participant Age

Studies were compared based on participant age. Age was coded as adolescent (13-17 years) and emerging adult (18-25 years). There was a significant moderating effect of participant age on sexual behaviors, $Q_B(1) = 53.36, p < .001$. Results indicated that studies examining adolescents had a larger effect ($k = 9, r = .16, Z = 8.03, p < .001, 95\% \text{ CI } [.12, .20]$) than those examining emerging adults ($k = 11, r = .03, Z = 2.77, p = .006, 95\% \text{ CI } [.01, .06]$).

Study Design

Studies were compared based on research design (i.e., correlational, cross-sectional, longitudinal, combined [cross-sectional/longitudinal]). A significant moderating effect of study design was found, $Q_B(3) = 44.43, p < .001$. Correlational studies had the largest effect compared to the other designs ($k = 1, r = .17, Z = 3.91, p < .001, 95\% \text{ CI } [.09, .25]$), followed by longitudinal designs ($k = 6, r = .16, Z = 5.61, p < .001, 95\% \text{ CI } [.10, .21]$), and then combined research designs ($k = 1, r = .12, Z = 3.95, p < .001, 95\% \text{ CI } [.06, .18]$). Cross-sectional studies

had the smallest effect of all the research designs ($k = 12$, $r = .04$, $Z = 3.42$, $p < .001$, 95% CI [.02, .07]).

Study Location

Studies were also compared based on location (United States, Australia, Netherlands). A significant moderating effect of study location was found, $Q_B(2) = 8.16$, $p = .02$. Studies conducted in the Netherlands had the largest effect ($k = 3$, $r = .19$, $Z = 2.31$, $p = .02$, 95% CI [.02, .10]), followed by the United States ($k = 15$, $r = .14$, $Z = 4.52$, $p < .001$, 95% CI [.06, .10]), and then Australia ($k = 2$, $r = .08$, $Z = 1.49$, $p = .14$, 95% CI [-.01, .35]).

CHAPTER FOUR: DISCUSSION

Interpreting the overall effect

This meta- analysis was constructed as a reaction to the implications regarding the increase in risky sexual behavior in adolescents and emerging adults as a result from sexual content in music lyrics and videos. It is obvious that these sexually active outcomes are negative for the individuals who are participating in them. To testify to this truth, and as a reminder, the Center for Disease Control and Prevention (2006) declared that 750,000 adolescent pregnancies take place each year and that essentially half of newly diagnosed STI's are among adolescents as well (Price & Hyde, 2009; Primack et al., 2009). This connection provides a starting point for how to improve such circumstances that have become prevalent in America and around the world due to this entanglement. The concern and interest for said population has fueled this research.

After a thorough review, this meta-analysis shows as clearly consistent with our hypothesis that sexual content in music lyrics and videos is associated with increased risky sexual behaviors among both adolescents and emerging adults. All studies did declare such a positive relationship between sexual content in music and sexual behavior. This held true across all moderating effects which were majorly non-significant with the exceptions of age and ethnicity.

Adolescence had a significantly larger effect size than emerging adults did, which when considering the facts is not all that surprising. Future research could take direction in discovering why these effect sizes differ exactly, but this study conjectures that there is a relation to how severely impressionable adolescence is over all other ages; making this age a time of

development in which their later years may use as an early reference of knowledge in the areas of love, identity, morals and normalizations (Coyne et al., 2013; Coyne & Padilla-Walker, 2015; Turner, 2011; van Oosten et al., 2015). This time of establishment paired with adolescent's admitting that they frequently turn to music as their media of choice as educational for these rules of normalization (Brown et al., 2006; Kistler & Lee, 2009; Rideout et al., 2009; Wright & Qureshi, 2015) is a dangerous but realistic combination. At one-time emerging adults went through this too, the difference is seen to be that as they reached emerging adulthood their real-world experience taught lessons that surpassed those taught from media, experiences that may be very different for adolescents today considering the earlier age at which they are experiencing sexual initiation. Because of this lack of appropriate experience adolescents put more of a trust in what they view on the media as having real face-value rather than suggestibility or even the more pragmatic word for it, fiction. As a result, they may engage in attempting to gather said real-world experience but at a younger age and with less realistic expectations and marginally smaller bases of understanding in risks they are taking forgoing with a lack of personal responsibility that is necessary under said circumstances.

This moderation effect offers a higher need in the responsibility given to adolescents and provides a much-needed call to action. It is valuable knowledge that now must be used to help this population move forward healthily. The validity of this rises even more when reconsidering that adolescents are also the most frequent music consumers, in both the areas of listening to music and in being labelled as music video fans (van Oosten et al., 2015; Wright et al., 2016), concluding that their inexperience and eagerness to learn is being fully submerged in a pool of misrepresentative knowledge that has potential to do more harm than good.

A significant effect size was also apparent under the moderating effect of ethnicity and future research could serve to investigate this more but in this specific study the smallest effect size to take place among studies was with majorly white participants. The second lowest was among participants of multiple ethnicities. There is room for research in this area to analyze if a specific ethnicity favors a certain genre of music or if cultural values effect their interpretations of the music they are consuming. Past research has given us the facts that one fourth of all female adolescents in the United States have STI's but that this fraction increases to one half when only considering African American female adolescents, placing this cultural population at a higher risk of obtaining STI's (Brown et al., 2006; Primack et al., 2009). An additional fact that suggests this cultural difference is that BET (black entertainment television, known for its aim at an African American focused population and containing mainly African American artists and news) became *uncut* in 2000 (Sprankle, End, & Bretz, 2012) offering more than seven times the sexuality in their music videos than other providers have such as MTV (Turner, 2011). This is rather troublesome when considering that a previous study found watching MTV to be the single largest predictor in females for seeking out multiple sexual partners in emerging adults (Sprankle & End, 2009). This viewing was only the fourth largest predictor in males and although future research could explore the gender differences further, this current study found no significant moderation effect among gender.

Summary

Specific behaviors that had supporting evidence included timing of sexual initiation, engaging in risky sexual behavior (such as unprotected sex or multiple/casual sex partners), as well as sexual attitudes that could likely lead to risky behavior categorized as either permissive attitudes or rape myth acceptance. Consistent media portrayal of sex as a risk-free pass-time was

found to have effect on the viewer's perception and ultimately actions (Aubrey et al., 2011; Johnson & Ross, 1989; Kaestle et al., 2007; Kistler & Lee, 2009; Malamuth & Check, 1981; van Oosten, Peter, & Valkenburg, 2015; Ward & Coyne). This is concluded through multiple motives such as the repetitive nature and long-term exposure that comes from a *Super Peer* such as music lyrics or a music video which creates a vicarious model that is then used to uphold distorted sexual norms (Kistler & Lee, 2009; Ward & Coyne, unpublished). This is backed up by past research that found it true for a music video consuming teen to have more distorted sexual norms led by sex-role stereotypes and objectification (Burgess & Burpo, 2012, Wright et al., 2016).

This all boils down to how adolescents are overexposed to said sexual content, allowing such formations to be made when they are deciding for themselves what to believe and what not to believe (Turner, 2011). Additionally, such explicit sexual content in music videos was found to promote rape myth (Aubrey et al., 2011; Turner, 2011). Ultimately, this study found that such attitudes do lead to behaviors that are influenced by such distorted normalizations. This concurrence of results raises our assurance in the truth of the conclusions drawn.

Purpose and Goal

Therefore, it is with optimism that this research is purposed to bring to light the possibilities of preventing such behavioral effects by both drawing attention to the issue and by providing suggestive options for parents and the education system to work on countering the emergence of these unwanted affects.

Reasons for directing prevention at parents and education stem from the truths of being unable to control the media's output. In scenarios which the media attempted to appease such requested standards there were limitations on how these could help. For example, it was found

that censoring songs by bleeping out the elicited words and obscenities did not stop the consumer from being able to understand its intention; additionally, placing ratings on music such as to marking them “M” for mature could have had the inverse effect of attracting a younger audience that was seeking out something they knew was not rated for their age (Wright et al., 2016).

Possible parental mediation could include co-watching that contains a conversational component in which attitudes being expressed are addressed and countered with more appropriate aspects of reality (Parkes, Wight, Hunt, Henderson, & Sargent, 2013). It is crucial to acknowledge that parental co-viewing which do not include these conversations can have the opposite negative effect and adversely encourage such norms as are being projected in music videos, this can also be ineffective if parents do indeed agree with distorted sexual norms that are being represented (Price & Hyde, 2009). Co-viewing is said to have possible greater importance than media in areas such as child development, when the time spent with a parent or parents is larger than that of adolescent time spent enjoying media alone (Brown, 2011) the difficulty here is in how frequently adolescents use media and the difficulty it would take to rival this in time spent with parents. However, it has been stated that the majority of teens prefer watching TV in a shared family space rather than by themselves as to encourage possible discussions indicating their openness to conversations and positive possibilities (Parkes et al., 2013).

Parents could also restrict the use of certain explicit media, discuss the material with their children at separate times if co-viewing is not possible and perhaps most importantly prepare their children for what to expect as far as media production techniques and how to make healthy choices for themselves that aren't based off what they feel others are doing or the media is suggesting (Radanielina-Hita, 2014). This parentally advised media literacy could really provide adolescents with a better understanding of what they are exposed to and additionally serve to

ensure they are aware conversation is open with their parent on these topic areas. The importance in establishing this open communication is clear and yet adolescents are less likely to turn to their parents or even a teacher for this kind of information (Coyne & Padilla-Walker, 2015). It is unfortunate to say that parents also fail to bring up such sexually informative conversations with their children, perhaps out of their own personal discomfort (Matlin, 2012). This study serves to break down those walls and get conversation flowing because despite the large relation with explicit sexual content in music videos and lyrics, parents still have a large part to play and it is to be remembered that some sexual behaviors such as an early initiation age are also correlated with poor parental relationships and family constructs (Price & Hyde, 2009; Wright, 2013; Wright & Brandt, 2015).

Although it is a less immediate source of possible change, and less preferred over parental action, altering sexual education in school systems could also be a great way to prepare adolescents for this difficult time filled with conflicting media. More education systems are teaching abstinence instead of safe sex, which has been found extremely fruitless with their goals (Matlin, 2012) and ineptitude in education may be doing more harm than imagined because it is telling students they can't find answers in the school environment. They are told that sex is bad and must be avoided, instead of faced with the reality of its imminent presence, taught how to address their questions and how to be safe and respectful of others as well as themselves.

The biggest solution is to provide adolescents with proper socialization to prevent media from becoming their last source of sexual information (Ferguson, 2016). The reality is, this will be a case by case outcome and no one can infiltrate all the homes of all the adolescents to ensure this is happening, and with education systems having flaws as any system does, there is a need for additional accessibility from new outlets with media literacy for our youth. This has been

acknowledged and is on the rise (Wright et al., 2017). Media literacy education, does exist, the problem is that it is rarely directed at music; focusing mainly on television and video games. Mediasmart is one such example that is doing this correctly, based out of Canada this website directed at attracting youth provides tools to understanding media for what it is and with sound research based off SLT, it is believed this kind of website design could spread the needed awareness to adolescents in order to better prepare them to think more critically on their own. Which, is exactly what has been proposed, is needed by Ranielina-Hita (2014).

Conclusion

This meta-analysis includes the strongest argument in support of the hypothesis that exposure to sexual music videos and lyrics leads to risky, sexual behavior to date. This strong case was supported with statistical research and careful collection of data and information that serve to highlight the need for recognition of this very real relationship.

These deductions have been made alongside previously discovered examples of non-exposure ones that seemingly added an additional layer of validity. A study was done that compared results with non-degrading sexual content and found a much lower relation to sexual activity turnout (Martino et al., 2006). Additionally, a study on intercourse concluded that teens with much less media exposure had attitudes towards intercourse and intent to seek it out that were much lower than those who had a higher exposure, supporting the same hypothesis (Kistler & Lee, 2009).

It has not been the intent of this study to place sole responsibility in the hands of media, additionally it is clear that media gains additional power when other social connections are

unavailable. This suggests that there are ways of halting the amount of power passed to the media if alternative social outlets are available for an adolescent to consult in these areas.

This key notion in moving forward with prevention is essential. It is understood that it would be unrealistic to expect media to stop “selling sex”, but that doesn’t mean its impact is beyond our control. The implication that social context is conceivably even more valuable than the actual material has previously been alluded (Parkes et al., 2013); however, it is likely an array of collective causes.

It is possible, as in any study that there is the influence of publication bias in the results, although serious examination was conducted in the form of a funnel plot in search of this bias and findings showed no indication of such an occurrence.

Sample size and type could be further studied in future research to include a more detailed investigation into the ethnical and cultural variations in order to better grasp the differences these interpretations provide. This study was also heterosexual specific, and it is possible that if additional sexualities were considered, different exposures and contextual conclusions would be present. It is also true that social connections and co-viewing draws new, but not wholly differing conclusions and that it would serve to look into these variations to see how greatly the impact is on peers and their friend’s preferences versus what they would choose to watch and listen to if they were actually alone. Research in this study did find that a peer’s preference is not entirely a personal choice due to these influences (Brown et al., 2006; Yanovitzky & Rimal, 2006) rendering them impactful and opening the conversation for a need to dive in deeper on these influential factors.

This can extend to future research areas in understanding if the viewer is searching for specific content due to an already existing predisposition, something that flaws the idea that the mentality followed the viewing. Although this is seen as unlikely, more research could be drawn to conclude whether or not this is true and in the absence of such knowledge there is an unavoidable limitation.

It is worth mentioning that articles referring to sexual intercourse did not place oral sex into this category. It is predicted that if this were examined in these studies alongside other sexual acts, the effect size would have increased even more. Articles excluded it due to the belief that it is “less risky” and commented that it happens even more frequently than intercourse but not without many of the same dangers (Price & Hyde, 2009).

APPENDIX A: Table 1. Studies Included in Meta-Analysis

Table 1. Studies Included in Meta-Analysis

Article	<i>N</i>	<i>r</i>	<i>SE</i>	% male	Age	Ethnicity	Country	Music	Design
Primack et al. (2009)	475	0.19	0.044	46.0	1	2	USA	L	CS
Johnson-Baker et al. (2016)	443	0.23	0.045	36.8	1	3	USA	L	L
Coyne & Padilla-Walker (2015)	548	0.11	0.042	48.0	1	1	USA	L	L
Wright & Brandt (2015)	357	0.06	0.053	24.1	2	1	USA	L	CS
Wright & Qureshi (2015)	729	0.03	0.037	37.3	2	1	USA	L	CS
	729	0.01	0.037	37.3	2	1	USA	V	CS
Wingwood et al (2003)	552	0.11	0.043	0.0	1	2	USA	V	L
Peterson et al. (2007)	552	0.17	0.043	0.0	1	2	USA	V	C
Wright (2013)	366	0.002	0.052	23.0	2	1	USA	L	CS

	729	0.03	0.037	37.0	2	1	USA	L	CS
Pardun, L'Engle, & Brown (2005)	1074	0.12	0.030	45.0	1	4	USA	L	CS/L
Vogel et al. (2012)	944	0.03	0.033	37.0	2	1	Netherlands	L	CS
Ward et al. (2011)	796	0.06	0.035	100.0	2	1	USA	V	CS
Wright (2014)	173	0.06	0.076	38.2	2	3	USA	L	CS
Frison et al (2015)	515	0.20	0.042	66.7	1	1	Netherlands	V	L
Wright & Rubin (2017)	514	0.03	0.044	28.30	2	1	USA	L	CS
	514	0.00	0.044	28.30	2	1	USA	V	CS
	902	0.03	0.033	28.30	2	1	Australia	L	CS

	902	0.040	0.033	28.30	2	1	Australia	V	CS
van Oosteen et al. (2015)	1205	0.090	0.029	50.00	1	1	Netherlands	V	L
Martino et al. (2007)	1461	0.220	0.025	53.00	1	1	USA	L	L

Note: Age is coded as 1 = adolescents; 2 = emerging adults

Ethnicity is coded as 1 = white; 2 = African American; 3 = Hispanic; 4 = Multiple

Music is coded as L = lyrics; V = videos

Design is coded as CR = cross-sectional; L = longitudinal; C = correlational

APPENDIX B: Table 2. Meta-Analysis Results

Table 2. Meta-Analysis Results

	<i>k</i>	<i>r</i>	CI _{LL}	CI _{UL}	<i>z</i>	<i>p</i>
Overall effect	20	.09	.06	.13	5.27	<.001
Music Type						
Lyrics	13	.09	.04	.14	3.71	<.001
Videos	7	.094	.05	.14	3.82	<.001
Participant Ethnicity						
White	14	.07	.03	.11	3.35	<.001
African American	3	.16	.11	.21	6.10	<.001
Hispanic	2	.16	-.01	.32	1.82	.07
Multiple	1	.12	.06	.18	3.95	<.001
Participant Age						
Adolescent	9	.16	.12	.20	8.03	<.001
Emerging Adult	11	.03	.01	.06	2.77	.006
Study Design						
Correlational	1	.17	.09	.02	3.91	<.001
Cross- sectional	12	.04	.02	.07	3.42	<.001

Longitudinal	6	.16	.10	.21	5.61	<.001
Mixed	1	.12	.06	.18	3.95	<.001
Study Location						
Australia	2	.08	-.01	.04	14.85	.14
Netherlands	3	.19	.02	.10	2.31	.02
United States	15	.14	.06	.10	4.52	<.001

Note. k =number of studies; r = mean correlation coefficient; CI_{LL} and CI_{UL} = lower limit and upper limit of the 95% confidence interval.

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