Peers, Media, and Morals: How Peer-rejection Impacts Moral Judgment and Preferences for Antisocial Media Content in Adolescents

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Abstract

In this paper, we examined the causal relation between peer rejection and a preference for anti-social media content in adolescence, based on developmental, media effects, and emotion-regulation theories. Two between-subjects experiments were conducted. Study 1 applied the Cyberball-paradigm to induce peer-rejection vs. peer-acceptance, while Study 2 used a recall mood induction procedure. Results of both studies showed that peer-rejected adolescents more strongly preferred to watch anti-social media clips than their accepted counterparts. This effect was mediated by higher levels of state anger and a more tolerable moral judgment of anti-social media content. In Study 2, direct effects of peer rejection on media preferences were also established as well as gender differences. In contrast, a young adult sample showed no relation between peer-rejection and anti-social media preference. Results are discussed within a downward spiral framework of combined peer and media influences.

Keywords: Adolescents, peer rejection, anti-social media content, moral judgment, anger
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Reality shows, YouTube clips, and video-games are highly popular among youth. However, such media often portray high levels of anti-social behavior and a world wherein unhealthy, aggressive, and risky behaviors seem risk free (e.g., reckless driving, drugs abuse, bullying; Brown & Witherspoon, 2002; Togunaka, 2010). The popularity and increase of such anti-social media content are worrisome to many parents, pediatricians and psychologists because such media contents have been shown to have detrimental effects on adolescent health (Strasburger, Jordan, & Donnerstein, 2010; Strasburger, 2009; Anderson et al., 2010). Clearly, media play an important role in adolescent development, not only by providing role models and transmitting ideas and ideals for future behavior, emotions and thoughts (Bandura, 2001; Hoffner & Buchanan, 2005; Konijn, Nije-Bijvank, & Bushman, 2007), but also for mood management and emotion regulation (Zillmann, 1988; Gross, Schramm & Wirth, 2008; Knobloch & Zillmann, 2002). Furthermore, peers play an important role during adolescence. However, thus far, systematically investigating the combined influences of peers and media in adolescent development only recently started to develop. Therefore, the present study aims to bring such research a step further in unraveling how peers, in terms of rejection/acceptance, may influence moral judgment and preferences for specific, antisocial media content in adolescents.

In comparison to other age groups, adolescents seem to be more attracted to anti-social media in general (Roe, 1995; Funk & Buchman, 1996). Furthermore, adolescents seem to be more susceptible to media influences (Dahl & Hariri, 2005; Rich & Bar-on, 2001; Strasburger et al., 2010). However, not all adolescents are influenced in similar ways by media. Likewise, they
will not all be influenced in similar ways by media portraying anti-social and immoral behaviors. Personal dispositions and specific circumstances seem to act in tandem with media influences, making some adolescents more at risk for negative effects than others (Krcmar & Kean, 2005). The present study aims to more precisely identify which circumstances may act together with adolescents’ specific media use. In brief, peers become increasingly important during adolescence, while many are bullied, victimized or otherwise rejected (Wang, Iannotti, & Nansel, 2009). We propose that adolescents who are rejected by their peers will have a stronger preference for anti-social media content in comparison to adolescents who feel accepted by their peers. The assumed underlying mechanisms are rejection-based anger and frustration and the adolescent’s moral judgment. In an experimental design, we tested the causality of the assumed relationships.

**Adolescents and Peer Rejection**

A main feature in the developmental stage of adolescence is the major role peers come to play in the lives of teens, often more important than the adolescent’s parents. Adolescents strongly depend on their peers for emotional security and normative behavior (Berndt, 1982; Krosnick & Judd, 1982; Field, Camargo, Taylor, Berkey, Roberts, & Colditz, 2001). Importantly, secure relationships with peers are associated with social and emotional competence (Laible, 2007; Laible, Carlo, & Raffaelli, 2000; Nickerson, 2005). However, not all adolescents are accepted by their peers, as some get rejected and feel they don’t belong to a group. Research states that peer-rejected youngsters form a vulnerable group for negative developmental outcomes, including aggression, antisocial behavior, and adjustment problems (Juvonen, Graham, & Schuster, 2003; Coie, Dodge, & Kupersmidt, 1990), and are more likely to drop out from school (Buhs & Ladd, 2001). How such negative effects of peer rejection may be linked to
adolescents’ media use has not yet been studied. Therefore, in line with negative developmental outcomes, we reasoned that precisely this group of peer-rejected adolescents might be more attracted to anti-social media content than adolescents who feel accepted by their peers.

**Rejection-based Anger and Anti-social Media**

Peer rejection and acceptance can be seen as a continuum, with acceptance on one end and rejection on the other (Leary & Twenge, 2006). When people feel accepted, they feel that others see their relationship as valuable and important. Rejection on the other hand, raises the feeling that others see their relationship as unimportant. While peer rejection is hurtful at any point in life, especially during adolescence peer rejection is extremely painful (Davey, Yücel, & Allen, 2008; Prinstein & Aikins, 2004) and is associated with intense feelings of anger and frustration (Kochenderfer-Ladd, 2004). In order to cope with negative feelings, adolescents may believe that using anti-social media (e.g., playing violent video games and listening to loud music) helps them to get relieved of such uncomfortable feelings of anger and frustration (Arnett, 1991; Olson, Kutner, & Warner, 2008; Olson, 2010). In combining these insights, we predicted that adolescents who feel rejected by their peers would experience anger and frustration, which in turn would act as an underlying mechanism in fuelling stronger preferences for anti-social media content.

**Rejection-based Anger and Moral Judgment of Media Content**

Moral judgments seem to be important in defining media preferences. Media users act like “untiring moral monitors” (Zillmann, 2000, p. 45) judging the acts of a media character as acceptable or unacceptable, subsequently determining their liking of media content. The moral dimension has empirically been shown to be the most important determinant of appreciation for a character and his/her deeds (Konijn & Hoorn, 2005; Van Vugt, Hoorn, Konijn, & de Bie
Dimitriadou, 2006). When people judge the behavior in the media as tolerable, this instigates a stronger preference for the media content than when someone judges the media content as immoral or intolerable (Zillmann, 2000).

The anger and frustration resulting from being rejected will narrow the adolescent’s moral judgment to self-interest and hinder pro-social moral judgment. Research shows that negative moods have been linked to self-focused moral judgments and behavior. For example, anger triggered in one situation automatically elicits blame cognitions in other situations (Quigley & Tedeschi, 1996). Emotions make related stored knowledge more accessible and this information influences judgment. In the case of anger, this emotion will prime action tendencies of approach and attack, subsequently making people to have more punitative judgments (Nabi, 2003). Likewise, people primed with anger increased their punitive attribution and judgment of characters in fictional tort cases (Lerner, Goldberg, & Tetlock, 1998). Moreover, a recent study showed that anger influenced judgments of moral permissibility (Ugazio, Lamm, & Singer, 2011). This could be explained by over-arousal: People in negative moods focus on their own needs instead of the needs of others, which inhibits their pro-social moral judgments (Eisenberg et al., 1994; Eisenberg, 2000). Thus, we predicted that rejection-based anger would increase moral permissibility, that is, an increased tolerance toward anti-social media content underlying a stronger preference for anti-social media as compared to accepted counterparts.

Adolescents vs. Young Adults

During the developmental stage of adolescence, the brains of youngsters undergo rapid growth distinguishing adolescence from childhood and adulthood (Spear, 2000; Paus, 2005). In particular, specific brain areas related to acquiring cognitive skills that are needed for reflective emotion regulation and pro-social moral reasoning develop during early adolescence (Steinberg,
Likewise, the social brain evolves during adolescence, which makes adolescents highly aware of their social situation and makes them more susceptible to social feedback from peers (Sebastian, Viding, Williams, & Blakemore, 2010; Steinberg, 2008). Furthermore, adolescents become highly aware of the consequences and social costs of failing in social situations (Davey et al., 2008). Therefore, adolescents are extremely sensitive to being rejected by peers which has a large impact on them in various respects, more so than others (Juvonen, Graham, & Schuster, 2003; Coie, Dodge, & Kupersmidt, 1990; Davey., 2008). Thus, because adolescents are still developing important cognitive and regulation skills and tend to be highly sensitive to their social environment, we hypothesized that the relationships between peer rejection, anger, moral judgment, and preferences for anti-social media content are unique for adolescents as compared to older individuals like young adults.

**STUDY 1**

Study 1 tested the hypothesis that peer rejection in adolescents instigates a stronger preference for anti-social media content, via rejection-based anger and a more lenient moral judgment of the media content. We also contrasted the effects of the adolescent sample with a sample of young adults, to test whether the assumed relationships are unique for the developmental stage of adolescence.

**Method**

**Participants and Design**

Participants were 74 adolescents (34 boys, 40 girls; \( M = 13.88, SD = 1.10; \) age range 12–16 yrs) and 75 young adults (16 male, 59 female; \( M = 21.37, SD = 2.25; \) age range 18–27 yrs). The adolescents were recruited from middle schools throughout the country, and represented adolescents of various educational ability and socio-economic levels. The young adults were
university students participating for course credits. Both samples were primarily Caucasian. All participants were randomly assigned to the experimental conditions by the computer.

Hypotheses were tested using an experimental between-participants design wherein acceptance vs. rejection was manipulated by means of the Cyberball-paradigm (Williams, Cheung, & Choi, 2000). Cyberball is a virtual game in which a ball is thrown between three participants, one of which is played by the study’s participant. Participants in the accepted condition ($N_{adolescents} = 35; N_{young\_adults} = 34$) received the ball one third of the time. In the rejected condition ($N_{adolescents} = 39, N_{young\_adults} = 41$) participants received the ball twice in the beginning of the game and never again for the remaining throws. Cyberball represents a controlled social situation wherein participants are randomly assigned to the rejected or accepted condition, making it possible to study causal relations between peer rejection and the dependent variables.

**Procedure**

The experimental set-up for the two samples (adolescents and young adults) was as similar as possible. The adolescents were individually seated in a computer-equipped classroom with headphones, while young adults were seated in individual cubicles in the university’s media lab. On the computer screen, participants were informed they would be playing a virtual game of catch. Participants were led to believe they played with two other participants who were taking the study at the same time in another school. Actually, the other two players in the game were computer generated. After 30 throws, the game ended and the participant was instructed to click on a link to direct him/her to an online questionnaire. In all, the experiment took approximately 20 minutes. Upon completion, participants were thanked and fully debriefed.
Measures

All variables were measured using Likert-type items, followed by 5-point rating scales (1 = not at all, 5 = very much).

Manipulation check. To check for peer-rejection/acceptance, participants completed the 3-item perceived levels of belonging questionnaire (Zadro, Williams, & Richardson, 2004) (e.g., “While playing the game, I felt accepted by the other players”). Cronbach’s alpha reliability index α = .75.

Participants’ feelings of anger and frustration was measured by completing the 10-item state-anger section of the Spielberger State-Trait Anger Expression Inventory (STAXI; Spielberger, 1996; Fuqua, Leonard, Masters, Smith, Campbell, & Fischer, 1991). The scale covered anger-related negative feelings (e.g., “I feel frustrated”). Cronbach’s α = .92.

To assess media preferences, we developed the Media, Morals, and Youth Questionnaire (MMaYQue) based on anti-social behavior categories in Gardner and Steinberg (2005). This scale contains 22 descriptions of YouTube clips; 14 descriptions covering anti-social behavior (e.g., “Youngsters scolding at a police officer and pushing him off his motorbike”; “Two boys sexually harass a girl in the schoolyard”). Furthermore, 9 descriptions covered neutral/social behavior (e.g., “Boys outplay a police officer in a soccer game at a festival”; “Cat playing a song on the piano”). The descriptions of the clips were formatted as they appear on YouTube. Participants indicated the extent to which they preferred to watch each of the described clips. Items were compiled into a mean index, separately for anti-social media (α = .94) and neutral/social media content (α = .73).

Moral judgment. The above described MMaYQue was elaborated with questions as to how morally accepted participants thought the behavior in the description was (e.g., “To what
extent do you think this behavior is normal?”; “To what extent do you think this behavior is accepted?”). Items were compiled into a mean index, separately for anti-social media (α = .93) and neutral/social media content (α = .89).

**Results**

Participants’ educational ability level (cf. IQ) did not moderate any of the following effects and is therefore not included in the analyses below. Using an independent samples t-test, significant gender differences were found in anti-social media preferences (t(147) = -5.85, p < .01) and moral judgment of anti-social media content (t(147) = -2.16, p < .05). Males showed a stronger preference for anti-social media content (M = 2.94, SD = 1.02) than females’ anti-social media preference (M = 1.95, SD = .96) and males judged anti-social media as more tolerable (M = 1.78, SD = .63) and than females (M=1.58, SD=.49). Therefore, gender was treated as a covariate in the analyses to control for possible moderating effects.

**Manipulation Check**

Independent samples t-tests were conducted across the two conditions and participants’ perceived levels of belonging. For the adolescents sample, participants in the rejected condition reported feeling significantly less accepted (M = 2.79, SD = 1.05) than participants in the accepted condition (M = 3.66, SD = .83, t(70.96) = -3.96, p < .01, d = .92). In the young adults sample, participants in the rejected condition also scored lower on perceived levels of belonging (M = 2.06, SD = .80) than participants in the accepted condition (M = 3.80, SD = 1.16, t(58.74) = -7.50, p < .01, d = 1.75). Thus, the manipulation was successful in both groups.

**Analyses of Direct and Indirect Effects**

Using an innovative non-parametric bootstrapping procedure (as recommended by Hayes, Preacher, & Myers, 2011), data were tested for simple and double mediation. This procedure
overcomes many of the problems associated with traditional mediation methods (e.g., Baron & Kenny, 1986; Zhao, Lynch, & Chen, 2010; Hayes, 2009). The bootstrapping procedure tests whether an indirect effect exists or whether the indirect path between the independent and dependent variables is significant (via mediator one and mediator two). Furthermore, it tests whether this indirect path explains the direct path in which the mediators are absent. Because this procedure uses less parameter estimates, power remains high, thereby reducing possible Type-II errors (Preacher & Hayes, 2004). Also, re-sampling the data overcomes the problem of non-normal distribution, yielding more accurate parameter estimates which further reduces possible Type-I errors (Preacher & Hayes, 2008). This analytical strategy is therefore highly useful for small to moderate samples (Preacher & Hayes, 2008).

Mediation was analyzed using Ordinary Least Square (OLS) regressions to estimate total and direct effects of peer rejection on anti-social media preference (see Figure 1). For indirect effects, percentile-based bootstrap confidence intervals (CI) and bootstrap estimates of standard errors were generated (number of bootstrap samples = 1000). When zero is not between the upper and lower bound of the confidence interval, it can be claimed with 95% confidence that the assumed indirect effect is not zero, indicating a significant indirect effect.

**Peer Rejection and Anti-social Media Preferences**

**Adolescents sample.** Analyses showed a significant direct effect of peer rejection on anger ($a_1$: $b = .49$, $p < .05$) with rejected adolescents reporting more anger than those in the accepted condition. A direct effect of anger on moral judgment of anti-social media content was also found ($a_3$: $b = .27$, $p < .01$); adolescents with higher levels of rejection-based anger had more tolerable moral judgments of anti-social media content. Furthermore, participants reporting tolerable judgments were higher in their preference for anti-social media content ($b_2$: $b = .82$, $p < .05$).
Finally, the direct effect of peer rejection on anti-social media preferences was non-significant \((c: b = .07, p = .80)\). Bootstrap estimates showed a significant indirect effect of peer rejection on anti-social media preferences, via anger and moral judgment (point estimate = -.11, 95% CI [-.25, -.01]), supporting a full double mediation model. All path coefficients are reported in Figure 2.

**Young adults sample.** Rejected young adults reported anger-levels that were only marginally significant \((a_1: b = -.22, p = .08)\). Furthermore, participants reporting more anger differed only marginally significant from accepted peers in their tolerance toward anti-social media content \((a_2: b = .16, p = .08)\). Results did show a direct effect between moral judgment and their preference for anti-social media content \((b_2: b = .57, p < .01)\). However, bootstrap analyses showed no significant indirect effects. Thus, for young adults, being rejected by peers did not lead to stronger preferences for anti-social media content.

**Peer Rejection and Neutral/Social Media Preferences**

To show that the relation between peer rejection and media preferences is unique for anti-social media content, we also tested the effects of peer rejection on preferences for neutral/social media content.

**Adolescents sample.** Testing the relation between peer rejection and the preference for neutral/social media content, another double mediation model was analyzed using bootstrap analyses. Again, results showed a significant direct effect of peer rejection on anger \((a_1: b = -.49, p < .05)\), with rejected adolescents reporting more anger than those who were accepted. The direct effect of anger on moral judgment, however, was only marginally significant \((a_3: b = .23, p < .06)\). Again, a tolerable moral judgment toward neutral/social media content had a direct effect on the preference for this type of media \((b_2: b = .43, p < .01)\). None of the other direct
effects were significant and bootstrap analyses showed no significant indirect effects. Thus, no indirect effect of peer rejection on the preference for neutral/social media content occurred.

**Young adults sample.** OLS regression analyses showed a marginally significant effect of peer rejection on anger ($a_1: b = -0.22, p = .08$). Furthermore, results showed a significant effect of peer rejection on moral judgment of neutral/social media content ($a_2: b = 0.28, p < .05$), with peer-rejected young adults rating neutral/social media content as more tolerable. Moral judgment significantly influenced the preference for neutral/social media content ($b_2: b = 0.47, p < .01$); such that participants with a more tolerable moral judgment toward the neutral/social media content showed stronger preferences for this type of media. Bootstrap analyses showed a significant indirect effect of peer rejection on the preference for neutral/social media content, via moral judgment (point estimate = -.02, 95% CI [.01 - .29]).

**Differences between Adolescents and Young Adults**

To test for differences between adolescents and young adults, a multi-group path analysis was conducted using Lisrel (Jöreskog & Sorböm, 1992). To control for gender effects, partial correlations were used. While testing alternative models, the best fit was obtained for the model constraining all paths to be equal for both groups with the exception of the relations between peer rejection, state anger, and moral judgment of (anti-social) media content (see Figure 3). The test results for the best model fit were: $\chi^2 = 22.93, df = 20, p = .29$, while the $\chi^2 / df$ ratio of 1.15 indicated a good fit to the data (Marsh & Hocevar, 1985). Likewise, the root-mean-square error of approximation (RMSEA) = .045 suggested a good fit (Browne & Cudeck, 1993) as did the overall fit of the model according to comparative fit index (CFI) = .97 (Scharmelleh-Engel, Moosbrugger, & Muller, 2003).
The path coefficients for the adolescents are displayed in the top half of Figure 3 and for the young adults in the bottom half. Figure 3 shows that for both groups, a more lenient moral judgment of media content predicted a stronger preference for this media. Also, both groups showed that moral judgment of anti-social media content was moderately related to moral judgment of neutral/social media content. Likewise, the preference for anti-social media was moderately related to the preference for neutral/social media content. However, the significant effect of peer rejection on state anger and in turn, the effect of state anger on moral judgment of both anti-social and neutral/social media content were unique for the adolescents.

Conclusion and discussion

The results of Study 1 show that being rejected by peers during adolescence sorts a causal effect on an increased preference for anti-social media content. This effect is mediated by rejection-based anger, which in turn instigates a tolerable moral judgment toward anti-social media content. Furthermore, this effect is unique for adolescents. That is, the young adults who were rejected by their peers did not show significant effects of being rejected, or rejection-based anger, on moral judgment nor on anti-social media preferences.

The differences in emotional response to peer rejection between adolescents and young adults is in line with developmental literature. In comparison to young adults, adolescents tend to be hypersensitive to peer rejection (Davey et al. 2008; Prinstein & Aikins, 2004). During adolescence, youngsters are highly susceptible to social feedback from peers (Steinberg, 2008) and become highly aware of the consequences and social costs of failing in social situations (Davey et al., 2008). This may declare why adolescents react emotionally stronger to peer rejection than young adults. This difference in emotional responding to peer rejection, may further explain the differences in media preferences between adolescents and young adults.
The differences we found in media preferences after peer rejection may be seen in light of differences found in behavioral responses to peer rejection in other research. Previous research on behavioral responses to peer rejection showed conflicting patterns; some studies found that people rejected by peers react in pro-social ways to regain social status (Williams & Sommer, 1997; Williams et al., 2000), while other studies found that peer rejection leads to anti-social behavior (Twenge, Baumeister, Tice, & Stucke, 2001; Warburton, Williams, & Cairns, 2006; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Our results show that peer rejection indirectly affected anti-social media preferences for adolescents, while for young adults peer rejection indirectly leads to a stronger preference for neutral/social media content. As rejection-related anger and frustration acted as a significant mediator in this relationship, recent emotion research is relevant. Specifically, feelings of anger and frustration after peer rejection are key mechanisms determining whether people would react in anti-social ways to peer rejection, because anger is associated with ‘acting-out’ and harming others (Chow, Tiedens, & Govan, 2008). Because only the adolescents reported feelings of anger after being peer-rejected, this might explain why adolescents act in anti-social ways in response to peer rejection (i.e., prefer anti-social media content) while the young adults responded in a pro-social way (i.e., preferring neutral/social media content).

The experimental setting of our study may, however, be seen as a limitation and not considered representative for peer rejection in daily life. Therefore, in a second study, to increase ecological validity and make the manipulation more targeted at a real life event, we asked another adolescent sample to recall and write about a moment when they either strongly felt rejected or accepted in Study 2. Moreover, Study 2 allowed for further examination of gender differences.
STUDY 2

In Study 2, we replicated Study 1 in an ecologically valid context and included a larger sample size of adolescents to further support the relationship between peer rejection and media preferences in adolescents. To induce the state of peer-rejection or peer-acceptance, we relied on a combined mood induction procedure. This procedure has been shown to be a most effective and reliable way of inducing specific moods (Westermann, Spies, Stahl, & Hesse, 1996). Adolescents were asked to think and write about a moment in time when they felt rejected by their peers. In this way, the feelings the adolescent had at the time that he/she actually felt rejected, would become salient again. For reasons of comparison, another group of adolescents was asked to recall and write about a moment when he/she strongly felt accepted by their peers.

Previous research on gender differences in response to peer rejection do not provide a clear picture. Some studies established no gender differences (Masten et al., 2009; Ladd & Troop-Gordon, 2003) and state that peer rejection is a stressor for both boys and girls (Dodge et al., 2003), while other studies suggests that peer rejection influences anti-social behavior in boys more strongly than in girls (McDougall, Hymel, Vaillancourt, & Mercer, 2001) and that boys more strongly express rejection-based anger than girls (Hubbard, 2001).

The gender differences in emotion expression could be explained by socialization. Girls tend to be more concerned with sustaining harmonious relationships with peers than boys (Maccoby, 1990; Archer, 1992) and will therefore (verbally and non-verbally) express anger in lesser intensity. In addition, for girls it is less accepted to express anger than for boys (Plant, Shibley, Hyde, Keltner, & Devine, 2000; Knobloch-Westerwick & Alter, 2006). Thus, the assumed effect of peer-rejection on anger and frustration in our study is expected to be more pronounced in the adolescent boys than girls in our sample.
As said, media can be used as a means to regulate or manage one’s emotions or moods (cf. mood management theory; Zillmann, 1988). While research on adolescent gender differences in emotion regulation by using media is still scarce, research in adults has found that males and females make different media choices when it comes to mood regulation (Biswas, Riffe, & Zillmann, 1994; Knobloch-Westerwick & Alter, 2006). Females tend to use positive media to regulate bad moods while men tend to use negative media in response to negative feelings. More explicitly, when dealing with feelings of anger, females try to distract themselves from their angry feelings (Rusting & Nolen-Hoeksema, 1998), while men tend to ruminate their feelings of anger (Frodi, 1978). Therefore, we expected that the relation between peer rejection and anti-social media preferences would hold more strongly for boys than for girls.

Method

Participants and design

Participants were 269 adolescents (154 boys, 115 girls; $M = 13.67$, $SD = 1.00$; age range 12–16 yrs). Adolescents were recruited from middle schools throughout the country, and represented adolescents of various educational ability and socio-economic levels. Participants were primarily Caucasian.

Hypotheses were tested using an experimental between-participants design wherein acceptance vs. rejection was induced (cf. manipulated in Study 1) by means of a mood induction. Participants were randomly assigned to one of the two experimental conditions. In the peer-rejected condition, participants were asked to write about a moment when they felt rejected by their peers. They were asked to describe this situation by answering the following questions: 1) Where were you when you were rejected by your peers? 2) Who rejected you? 3) How did the situation look like, what happened? 4) What did you think at the moment of being rejected? 5)
How did you feel at that particular moment? Participants in the acceptance condition were asked to recall and write about a moment when they felt accepted by their peers. They were asked to describe the situation answering the same questions as the participants in the rejection-condition (i.e., the word rejected was replaced by the word accepted).

**Procedure and Measures**

As in Study 1, adolescents were individually seated in a computer-equipped classroom with headphones. The study took approximately the same amount of time as Study 1 did, about 20 minutes. Upon completion, participants were thanked and fully debriefed. The variables anger, media preference, and moral judgment were assessed in the same way as in Study 1.

**Results**

**Manipulation Check and Preliminary Analyses**

An independent samples *t*-test was conducted across the two conditions and participants’ feelings of anger. The analysis revealed a significant difference in anger between the condition with adolescents in the rejection-condition reporting stronger feelings of anger \((M = 3.06, SD = 1.24)\) than adolescents in the acceptance-condition \((M = 1.01, SD = .07; F(1, 266) = 277.24, p < .01, \eta^2 = .51)\). It can be concluded that the manipulation was successful.

Using a MANOVA, significant effects were found for educational level (c.f. IQ) (Wilks’ \(\Lambda = .94; F(8, 520) = 2.20; p < .05; \eta^2 = .03\)), and gender (Wilks’ \(\Lambda = .89; F(4, 260) = 8.41; p < .01; \eta^2 = .12\)). Therefore, educational ability level was treated as a covariate in all subsequent analyses to control for possible, unintended confounding effects. In the first analyses reported below, in which we aim to replicate the findings of Study 1, gender was, as in Study 1, treated as a covariate to make the analyses comparable.

**Analyses of Direct and Indirect Effects**
As in Study 1, the bootstrapping procedure was used to examine the data (Hayes, Preacher, & Myers, 2011). Again, for indirect effects, percentile-based bootstrap confidence intervals (CI) and bootstrap estimates of standard errors were generated (number of bootstrap samples = 1000).

Peer Rejection and Anti-social Media Preferences

The results of the bootstrapping analyses showed a significant direct effect of peer rejection on anger ($a_1: b = -2.04, p < .01$) and on moral judgment ($a_2: b = -.52, p < .01$) with rejected adolescents reporting more anger and a more tolerable moral judgment than adolescents in the accepted condition. Also, a direct effect was found between anger and moral judgment of anti-social media content ($b_2: b = .52, p < .01$); higher levels of anger instigated a more tolerable moral judgment of anti-social media content. Furthermore, participants reporting a more tolerable moral judgment had a stronger preference for anti-social media content ($b_3: b = .53, p < .01$). Finally, a direct effect was established of peer rejection on anti-social media preference ($c: b = -1.93, p < .01$), with peer rejected adolescents reporting stronger anti-social media preferences in comparison to accepted adolescents. Bootstrap estimates also showed a significant indirect effect of peer rejection on anti-social media preferences, via anger and moral judgment (point estimate = -.56, 95% CI [-.74, -.40]), supporting a partial double mediation model.

Peer Rejection and Neutral/Social Media Preferences

As in Study 1, we redid the analyses for neutral/social media preferences, to examine whether the double mediation is unique for anti-social media content. Again, results showed a significant direct effect of peer rejection on anger ($a_1: b = -2.04, p < .01$) and on moral judgment ($a_2: b = -.82, p < .01$), with rejected adolescents reporting more anger and a more tolerable moral judgment than those who felt accepted. The direct effect of anger on moral judgment,
however, was not significant ($a_3: b = -0.04, p = .58$). Again, a higher score on moral judgment (i.e. indicating a more tolerable moral judgment) toward neutral/social media content had a direct effect on the preference for this type of media content ($b_2: b = .77, p < .01$). Also, a direct effect of peer rejection on neutral/social media preference could be established ($c: b = -1.09, p < .01$) with peer rejected adolescents reporting a stronger preference for neutral/social media content in comparison to accepted adolescents. However, bootstrap estimates did not show an indirect effect (point estimate = -.06, 95% CI [-.13, -.24]), that is, the relation between peer rejection and neutral/social media preference was not mediated by rejection-based anger and moral judgment. However, bootstrap estimates did show an indirect effect between peer rejection and neutral/social media content mediated by a more tolerable moral judgment (point estimate = -.63, 95% CI [-.93, -.33]).

**Boys’ Anti-social Media Preferences**

Analyses showed a significant direct effect of peer rejection on anger ($a_1: b = -2.26, p < .01$) in that rejected boys reported more anger than boys in the acceptance-condition. Also, a direct effect was found between anger and moral judgment of anti-social media content ($b_2: b = .51, p < .01$); higher levels of anger instigates a more tolerable moral judgment of anti-social media content. Furthermore, participants reporting a more tolerable moral judgment had a stronger preference for anti-social media content ($b_2: b = .38, p < .01$). Finally, a direct effect was established of peer rejection on anti-social media preference ($c: b = -2.21, p < .01$), with peer rejected boys reporting stronger anti-social media preferences in comparison to accepted boys. Bootstrap estimates also showed a significant indirect effect of peer rejection on anti-social media preferences, via anger and moral judgment (point estimate = -.44, 95% CI [-.68, -.25]), supporting a partial double mediation model. All path coefficients are reported in Figure 4.
**Boys’ Neutral/social Media Preferences**

Again, results showed a significant, direct effect of peer rejection on anger ($a_1: b = -2.26$, $p < .01$). The direct effect of anger on moral judgment of neutral/social media content, however, was not significant ($a_3: b = .08, p = .45$). Again, a tolerable moral judgment toward neutral/social media content had a direct effect on the preference for this type of media ($b_2: b = .67, p < .01$). Also, a direct effect could be established of peer rejection on neutral/social media preference ($c: b = -1.21, p < .01$) with peer-rejected boys reporting a stronger preference for neutral/social media content in comparison to accepted boys. However, bootstrap estimates did not show an indirect effect (point estimate = -.12, 95% CI [-.46, .02]), the relation between peer rejection and neutral/social media preference was not mediated by rejection-based anger and moral judgment.

**Girls’ Anti-social Media Preferences**

For the girls, just as for the boys, analyses showed a significant direct effect of peer rejection on anger ($a_1: b = -.72, p < .01$), such that rejected girls reported more anger than girls in the acceptance-condition. Also, a direct effect was found between anger and moral judgment of anti-social media content ($b_2: b = .56, p < .01$); higher levels of anger instigated a more tolerable moral judgment of anti-social media content. Furthermore, participants reporting a more tolerable moral judgment showed a stronger preference for anti-social media content ($b_2: b = .88, p < .01$). Finally, a direct effect was established of peer rejection on anti-social media preference ($c: b = -1.67, p < .01$), with peer-rejected girls reporting stronger anti-social media preferences in comparison to accepted girls.

Also in line with the results for the boys, bootstrap estimates showed a significant indirect effect of peer rejection on anti-social media preferences for the girls, via anger and moral
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judgment (point estimate = -.85, 95% CI [-1.16, -0.60]), supporting a partial double mediation model. However, in contrast to the results for the boys, a direct effect of peer rejection on moral judgment of anti-social media content was found for the girls ($a_2: b = -0.71, p < .01$). In addition, a direct effect of anger on anti-social media preference was found ($b_1: b = -0.13, p < .01$); girls who experienced greater amounts of anger, showed less preference for anti-social media content than girls experiencing less anger. Bootstrap analyses revealed an indirect effect between peer rejection and anti-social media preferences via anger (point estimate = .22, 95% CI [.04, .40]) and an indirect effect via moral judgment (point estimate = -.63, 95% CI [-1.02, -.28]). Thus, for girls, peer rejection directly leads to a more tolerable moral judgment instigating a stronger preference for anti-social media content, like we found for the boys. Furthermore, rejection-based anger directly inhibited the preference for anti-social media content in girls.

**Girls’ Neutral/social Media Preferences**

Again, as for the boys, results showed a significant direct effect of peer rejection on anger ($a_1: b = -1.72, p < .01$). The direct effect of anger on moral judgment of neutral/social media content, however, was not significant ($a_3: b = -0.18, p = .07$). Again, a tolerable moral judgment toward neutral/social media content had a direct effect on the preference for this type of media content ($b_2: b = .92, p < .01$). Furthermore, a direct effect of peer rejection on neutral/social media preference could be established ($c: b = -.85, p < .01$) with peer rejected girls reporting a stronger preference for neutral/social media content than accepted girls. As for boys, bootstrap estimates did not show an indirect effect (point estimate = -.28, 95% CI [.07, .49]), that is, the relation between peer rejection and neutral/social media preference was not mediated by rejection-based anger and moral judgment. However, in contrast to the results for the boys, a direct effect could be established of peer rejection on moral judgment of neutral/social media
content for the girls \((a_2: b = -.94, p < .01)\). Bootstrap analyses revealed an indirect effect between peer rejection and neutral/social media preferences via a more tolerable moral judgment \((\text{point estimate} = -1.35, 95\% \text{ CI} [-1.35, -0.40])\). Thus, for both boys and girls, peer rejection leads to a stronger preference for neutral/social media content and to stronger feelings of anger. Also, for both groups a more tolerable moral judgment is related to stronger preference for neutral/social media content. However, only for girls peer rejection directly instigates a more tolerable moral judgment of neutral/social media content. All path coefficients are reported in Figure 4.

**Conclusion and Discussion**

As in Study 1, the results of Study 2 show an indirect effect of peer rejection on adolescents’ stronger preferences for anti-social media content via rejection-based anger and a more tolerable moral judgment. As predicted, this indirect effect could not be established between peer rejection and the preference for neutral/social media content. However, in contrast to the results of Study 1, in this replication study, a direct effect was found of peer rejection on both the preference for anti-social media content and neutral/social media content. Furthermore, direct effects of peer rejection on both a more lenient moral judgment of anti-social media content and neutral/social media content was established. It seems that the recall mood induction resulted in stronger feelings of peer rejection than the Cyberball-paradigm as used in Study 1 (i.e., in Study 1, beta = -.49 for the relation peer rejection – anger, while this beta = -2.04 in Study 2).

As argued in the above, following gender differences in mood management, we had expected that girls would prefer neutral/social media content in response to peer rejection, while boys would prefer anti-social media content. However, our results show that both boys and girls
who feel rejected by their peers have a stronger preference for anti-social and neutral/social
media content in comparison to their accepted counterparts. For both boys and girls, the relation
between peer rejection and anti-social media preference is partially mediated via rejection-based
anger and a more lenient moral judgment toward the anti-social media content. For girls, direct
relations between peer rejection and a more tolerable moral judgment as well as between anger
and anti-social media preferences could also be established. However, girls who reported higher
levels of rejection-based anger had weaker preferences for anti-social media content than girls
who reported lower levels of anger.

Regarding the preferences for neutral/social media content, anger did not play a role,
neither for boys nor girls. For girls, however, the relation between peer rejection and
neutral/social media preference was partially mediated by a more tolerable moral judgment
toward neutral/social media content.

As found in previous research, anger seems key in determining anti-social responses to
peer rejection (Chow, Tiedens, & Govan, 2008). Our results suggest that rejection-based anger is
the main factor causing rejected adolescents to prefer anti-social media content, by instigating a
more tolerable moral judgment about the anti-social behavior in the media.

Finally, in contrast to boys, girls who reported higher levels of anger showed lower
preferences for anti-social media content than girls reporting less anger. Perhaps, such a gender
difference can be explained by boys and girls applying different ways of regulating their
emotions. Previous research, for example, showed that males tend to ruminate their feelings of
anger, while women tend to distract themselves from angry feelings (Rusting & Nolen-
Hoeksema, 1998; Frodi, 1978). Future research to more specifically flesh out how differences in
emotion regulation may affect media use in adolescent boys and girls is warranted.
General discussion

In the present paper, the results of two studies are reported that both show that adolescents who are rejected by their peers have stronger preferences to watch anti-social media clips than their accepted counterparts. This effect was mediated by higher levels of state anger and a more lenient moral judgment of anti-social media content. In contrast, no relations between being rejected by peers and anti-social media preferences were found in a young adult sample, indicating that the relationships found are unique for adolescents. Gender differences in adolescents’ responses to being rejected were also found (in Study 2), such that boys were more outspoken in their anti-social media preferences after rejection than girls.

As predicted, our results show that peer influences and adolescent media use act together in affecting adolescents. We not only established, for the first time, how an important aspect of adolescent’s lives, that is, being rejected by peers, impact their preferences to watch specific media content, we also provided evidence for important underlying mechanisms. Given that rejection among peers occurs quite often, for example, in relation to (cyber)bullying, victimization and ostracism (cf., Wang, Iannotti, & Nansel, 2009), our findings are significant for understanding adolescents’ media use. Even more when taking into account that previous research showed that individuals exposing themselves to anti-social media content in order to cope with anger were even more aggressive after anti-social media usage (Bushman, Baumeister, & Phillips, 2001; Bushman, 2002). Therefore, the selection of anti-social media as a means of regulating one’s feelings of anger induced by peer rejection can lead to detrimental media effects. Media content influences beliefs, attitudes and behavior, which in turn predicts media selection in the future. Following this spiral of influence, people selecting anti-social media content will adjust their beliefs, attitudes, and behavior toward anti-social behavior in a negative
way (Slater, Henry, Swaim, & Anderson, 2003; Slater, Henry, Swaim, & Cardador, 2004; Slater, 2007). Furthermore, aggression is related to peer-rejection (Sentse, Scholte, Salmivalli, & Voeten, 2007). Consequently, anti-social media use in response to being rejected by one’s peers may further increase peer rejection, resulting in a downward spiral of both negative media and peer influences. In a longitudinal study this downward spiral could be further examined.

In line with previous research, moral judgment of media content is a key factor in influencing media use as predicted in Zillmann’s Affective Disposition Theory (2000; also in Konijn & Hoorn, 2005; Van Vugt, Hoorn, Konijn, & de Bie Dimitriadou, 2006). In further extending this theorizing, it is an important finding in our studies that emotions have the power to influence moral judgment and media preferences in adolescents. Adolescents experiencing stronger feelings of anger in response to peer-rejection make more tolerable moral judgments of anti-social behavior in the media, instigating a stronger preference for this type of media content. This is in line with previous research showing that people in angry moods tend to focus on themselves which inhibits pro-social moral reasoning (Eisenberg et al., 1994; Eisenberg, 2000) and instigates a more lenient moral judgment (Lerner et al., 1998; Ugazio et al., 2011). The relations found between anger, moral judgment and media preferences seem extremely relevant for the developmental stage of adolescence for three reasons: 1) as results of Study 1 show, adolescents seem to react more strongly to peer rejection than young adults, 2) adolescents are still developing emotion regulation skills to cope with feelings of anger (Spear, 2000) which makes them to experience emotions more intensely in comparison to others (Larson, Csikszentmihalyi, & Graef, 1980; Larson, & Lampman-Petratis, 1989), and 3) during adolescence, moral reasoning still develops (Steinberg, 2005; Casey, Jones, & Hare, 2008). Therefore, this relation between anger and moral judgment, subsequently affecting their media
use, may be stronger for adolescents than for other age groups. Future research could examine how other emotions associated with peer influences among adolescents may affect moral judgment and media preferences.

Our results also indicate that adolescent boys and girls partly differ in their response to peer rejection. Rejection-based anger plays a key role in the relation between peer rejection and anti-social media preferences for both groups. Girls who experience rejection-based anger have, like boys, a more tolerable moral judgment of anti-social behavior in media content, which affects a stronger preference for anti-social media content. However, in girls, anger also directly inhibits a preference for media portraying anti-social behavior. Such differences may be explained by a mood adjustment approach (Knobloch, 2003), which was developed in response to the mood management theory (Zillmann, 1988). Both theories suggest that people use media to regulate their moods, however, mood adjustment theory further specifies that individuals do so to meet the requirements of anticipated situations. This implies that the preference for certain media content depends on motivations for future behavior. In this line of thinking, the preference for anti-social media content in response to anger may be related to the motivation to maintain this feeling to confront the provoker of the induced anger (Knobloch-Westerwick & Alter, 2006). As said, girls tend to be more concerned with sustaining harmonious relationships with peers than boys (Maccoby, 1990; Archer, 1992). Therefore, it seems plausible that girls who experience anger after peer rejection will choose media to down-regulate their feelings of anger to maintain positive relations with their peers. This may explain the negative relation between anger and anti-social media preferences in girls.

The results of our study suggest that adolescents rejected by peers have a stronger preference for anti-social media content in comparison to their accepted counterparts. However,
this may not apply for adolescents who are accepted in anti-social peer groups. For such groups of youngsters, other mechanisms may be at work. Future research should also focus on adolescents who are specifically accepted by anti-social peers and their media preferences.

In all, our research shows, for the first time, how peer rejection leads to a preference for anti-social media content as a unique phenomenon during adolescence. The key mechanisms in this process are rejection-based anger and a more tolerable moral judgment toward anti-social behavior in the media. Gender differences were found in anger regulation strategies: Girls seem to avoid anti-social media content in dealing with their feelings of rejection-based anger, while boys seem to seek out anti-social content. Therefore, peer-rejected youngsters, and especially boys, seem more at risk for negative media influences than their accepted counterparts. To reduce this risk, adolescents should train effective ways to cope with rejection-based feelings of anger and frustration to prevent a possible downward spiral.
References


Peer influence → media preference

Covariate: Gender

Rejection-based anger → Moral judgment

Peer influence → media preference

Covariate: Gender

Figure 1. Causal steps in mediation test, according to Hayes, Preacher, and Myers (2011)
Figure 2. Model showing the unstandardized path coefficients for the adolescents sample (black) and the young adults sample (gray).
Figure 3. Results of the path analysis for adolescents (top half) and young adults (bottom half). Dotted lines indicating non-significant relations. Note that paths between judgment and preference are fixed between groups.
Figure 4. Model showing the unstandardized path coefficients separately for the adolescent boys (black) and girls (gray).