The Relative Contributions of Physical Attractiveness and Prosocial Behavior in Preschool Friendship Choices

by

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Abstract

Previous research has documented a strong preference for attractiveness from infancy to adulthood, across many social contexts. However, direct evidence about someone’s personality, specifically evidence about prosociality and altruistic behavior, should also have an effect on decisions about friendship initiation. Little research has explored the relative weight of physical attractiveness and prosocial behavior in friendship decisions. If these two salient cues were pitted against each other, which would be more important for fostering friendships, especially in early development? The current study tested whether children would prefer a nice-unattractive or a mean-attractive peer, by pairing photos of children varying in rated attractiveness with stories of good and bad behavior. Three-year-olds of both sexes chose based on attractiveness. Four-year-old boys also preferred attractiveness, but four-year-old girls strongly preferred niceness. These results reveal the developmental origins of an important sex difference in friendship decisions. These early preferences may reflect children’s internalization of gender schemas and socialization away from an innate tendency towards preferring physical attractiveness.
Introduction

In the 2008 Olympics, a young girl was told she could not sing on national television because she was not considered pretty enough. Instead, her voice was broadcast while another young girl, whom Chinese officials deemed to be prettier, lip-synced the words. Directors of the performance felt that it was in the “national interest” to have a physically attractive child be the representative of Chinese culture (Vause, 2008). This episode is a startling example of the large role that physical attractiveness plays in how people are perceived and treated. Television shows, images in advertisements, and newspaper stories all spread a similar message—it pays to be beautiful. Yet, there are other important social cues, including niceness, intelligence, and honesty, which should, in principle, drive how people are viewed in social interactions.

While many studies have focused on the role of physical attractiveness in intimate relationships and social status (Li, Bailey, Kennick, & Linsenmeier, 2002; Hawley, Johnson, Mize, & McNamara, 2007; Umberson & Hughes, 1987; Sprecher & Regan, 2002), much less is known about how physical attractiveness is integrated into the world-views of younger children, especially when it is combined with positive and negative personality traits. How does the attractiveness of peers affect the development of early friendships? Furthermore, how does the effect of attractiveness, as a desirable quality, compare to that of prosocial traits and behaviors? The current study analyzes the functional
consequences of physical attractiveness relative to social traits, namely kindness, on children’s social preferences.

It is well documented that humans have a preference for physically attractive faces. In a now classic study, six-month-olds played longer and smiled more when a woman was wearing an attractive mask in comparison with how they reacted when she was wearing an unattractive mask (Langlois, Rogman, & Reiser-Danner, 1990). Even newborns look longer at relatively attractive faces (Slater, Bremner, Johnson, Sherwood, Hayes, & Brown, 2000). Early childhood is an especially salient developmental period for the acquisition of preferences and stereotypes. When making friendship choices, three to six year olds prefer attractive children and show a corresponding dislike for unattractive children, whether acquainted or not (Dion, 1973; Dion, 1977; Styczynski & Langlois, 1977). This preference is stable through development. In early adolescence, children with the most friends, who are ranked as the most well liked, also tend to be more physically attractive than their less popular peers (Kleck, Richardson, & Ronald, 1974; Kleck & Dejon, 1983).

Even adults are not immune to the effects of a physically attractive face. In Western societies, adults looking for relationship partners agree that physical attraction is very important in building romantic relationships (Albada, Knapp, & Theune, 2002). When describing ideal partners, adults rarely fail to mention appealing physical attributes (Li et al., 2002). This age-invariant preference also operates on an implicit level; adult participants taking an Implicit Attitudes Test (with attractive and unattractive faces flashing in the background) were faster at
categorizing words as positive when viewing an attractive face (Van Leeuwen & Macrae, 2004). These results illuminate that this preference is strong and can occur on a subconscious level, without children or adults being aware of the way it guides their interactions.

Despite the common aphorism that beauty is in the eye of the beholder, many studies, including a recent meta-analysis, have shown that humans tend to agree on what is considered physically attractive (Langlois et al., 2000). Reliable agreement occurs across age groups and cultures (Langlois et al., 2000). Symmetry and youth contribute to an idea of attractiveness (Buss, 1989; Perret, May, & Yoshikawa, 1994). Due to this universal tendency to prefer certain physical characteristics, it is theorized that this could be an innate preference that offers evolutionary benefits (Buss, 1989; Perret, May, & Yoshikawa, 1994).

This preference for attractiveness plays out dramatically in social situations. Physically attractive people are seen as more intelligent, more competent, more sociable, and more successful. Dion deemed this consistent finding the “beauty is good” phenomenon (Dion, Berscheid, & Walster, 1972). Men and women view physically attractive mates as more warm, sensitive and polite (Dion & Dion, 1987). In a classic study on adult’s views on transgressions, unattractive children who did something bad were seen as antisocial and dishonest, while attractive children’s transgressions were seen as less harmful and not indicative of enduring personality traits (Dion, 1972). These differential expectations could have a profound effect on the world-views of children indirectly taught to believe that
attractive children are more socially desirable. Indeed, the “beauty is good” attribution has been documented in preschool children. Three to seven year olds are more likely to perceive attractive peers as more prosocial in behavior than unattractive children. This is true for both sexes, even when the children are acquainted (Dion, 1973; Styczynski & Langlois, 1997). The inverse phenomenon has also been found in preschool children, as well as in adult populations: unattractive peers are more likely to be associated with antisocial and negative behaviors, eliciting the message that “ugly is bad” (Dion, 1973; Griffen & Langlois, 2006). Children may be socialized to believe that beauty is good (and ugly is bad) from a young age and this can have far-reaching implications for future life directions and decisions, including friendship and relationship choices.

Not only are physically attractive people seen as better than average, they are also treated better by peers, teachers, employers, and even their own family members (Langlois et al., 2002). According to a recent meta-analysis, attractive adults are more likely to be smiled at and accepted, given help when in need, and given rewards (Langlois et al., 2002). Even political candidates are more likely to be elected if they are physically attractive (Antonakis & Dalgas, 2009). Attractive children are more likely to be given more social and visual attention, and teachers are more likely to expect more of them and give them better grades. (Langlois et al., 2002). Children as young as four years old are more likely to help, share, and show physical affection towards attractive peers (Smith, 1985).

Another demonstration of the deep impact of the attractiveness preference in our society comes from recent economic analyses. Mobius and Rosenblat (2006),
using a mock employment study in which participants were assigned payment based on resumes, photos, and phone calls, found that better looking subjects were given significantly higher wages, even though they performed no better than other participants. In the job market today, physically attractive people are hired more frequently and get paid significantly more at their jobs (Mobius & Rosenblat, 2006), and physical attractiveness significantly predicts personal and family income, occupational prestige, and education level (Umberson & Hughes, 1987).

It seems that there are many reasons why someone would want to befriend a person who is physically attractive. Physically attractive people are visually appealing, and they are seen as good in many social and academic arenas. Physical attractiveness is also a status characteristic, like race and height. According to the Status Characteristic Theory, people’s perceptions and first impressions are based on observable physical characteristics that reflect status (Umberson & Hughes, 1987). Because physical attractiveness is a characteristic that implies high status, people perceive and treat attractive individuals as though they are high status before even knowing them (Umberson & Hughes, 1987). Even teachers’ ratings of preschoolers’ attractiveness are correlated with the teachers’ perceptions of the power and status of the children in their classrooms (Hawley, Johnson, Mize, & McNamara, 2007). This could be an accurate assessment (that physically attractive children have higher status) or a result of perceptual biases. Furthermore, in schools, peers’ perceptions of popularity and
physical attractiveness are highly correlated (Felson & Bohrnstedt, 1979). A
desire to be associated with someone of high status could be another reason why
attractive people tend to be more popular and have more friends (Kleck,
Richardson, & Ronald, 1974).

Even though beautiful people are generally seen as having good qualities and
are treated better, physical attractiveness has not been proven to be an accurate
indicator of prosociality, although it is correlated with better social skills and
higher intelligence (Langlois et al., 2000). By contrast, doing good deeds is
probably a much better, more proximal indicator of goodness. Niceness is a trait
that is openly valued in American society; from a young age, children are taught
to share with and include peers, and they are taught not to hit and steal (Tulviste
& Koor, 2005). Research on adult friendship has shown that people choose close
friends based on desirable personality traits such as politeness and friendliness
and put less emphasis on physical characteristics (Johnson, 1989). Furthermore,
adults say that traits like kindness and warmth are very desirable in future mates
(Sprecher & Regan, 2002; Li et al., 2002). A recent study even touted niceness as
an evolutionary sexual selection strategy (Hardy & Van Vugt, 2006). According
to this theory, only those who have enough resources will be altruistic and expend
those resources without the expectation of being repaid; thus, niceness may be as
evolutionarily advantageous as physical attractiveness.

Furthermore, researchers have documented a “good is beautiful effect.” A
nice, charming personality can increase ratings of physical attractiveness, while
an unpleasant personality can have the opposite results (Felson & Bohrnstedt,
In a recent study, participants rated people in pictures as more physically attractive if they were paired with desirable personality descriptions (such as friendly, nice, and outgoing) and less attractive if paired with negative personality descriptions (Lewondowski, Aron, & Gee, 2007). This is also true of children; 4th and 5th grade participants watching prosocial or antisocial behaviors on video rated confederates who performed a nice deed (like helping) as more attractive than confederates who were seen pushing or excluding peers (Duncan-Bazil & Foster, 1999).

In light of all of this evidence, it seems common sense that one would prefer a nice friend over a mean friend. However, some studies have shown that aggressive children with dominant personalities are more popular than nice children (Hawley, Johnson, Mize & McNamara, 2007; Umberson & Hughes, 1987; Hawley, Card, & Little, 2007). This could be because aggressive and dominant children who have other positive traits are likely to get what they want and be in positions of high status (Hawley, Johnson, Mize & McNamara, 2007; Umberson & Hughes, 1987; Hawley, Card, & Little, 2007).

In real life, any given individual is not just nice or mean; people have a slew of personality and physical characteristics that interact with each other to produce either a socially desirable or undesirable friend. It appears that physical attractiveness and niceness are both strong social cues that jointly contribute to friendship choices. A major challenge of studying either of these salient social cues is the fact that they are confounded in the real world. Physical attractiveness
might be highly valued because it is assumed subconsciously that it is connected with personality traits and being nice can make one appear more attractive. If an experiment tests for physical attractiveness preferences without controlling for assumed positive personality traits, participants may pick attractive friends because they are assumed to be nice (and friendly, intelligent, and warm) in comparison to the unattractive face which elicits negative personality attributions. To complicate matters even more, a recent study has shown that if a person values a certain trait like honesty or warmth, when shown a face that has physical characteristics that convey this trait (e.g. a baby face), the person will find it more attractive (Little, 2006). In addition, physical attractiveness and prosociality may be truly confounded. If attractive people are treated better and with more kindness, maybe they are socialized to be nicer individuals, creating a self-fulfilling prophecy. Thus, studies testing one or both of these variables separately, without specifically isolating the cues, may be unwittingly testing the joint impact of physical attractiveness and niceness.

Although numerous researchers have studied these variables, few experiments have teased these two variables apart in order to assess their contributions to social interactions independent of each other and other socially desirable traits. The researchers that have attempted this have yielded intriguing results. For example, a few studies have been conducted in order to test the “nice guys finish last” phenomenon, in which women tend to choose arrogant, handsome men over nice men (McDaniel, 2005; Urbaniak & Kilmann, 2006). These studies try to pit nice, unattractive men against mean and aggressive attractive men in order to
understand why women say they want a nice guy, but end up choosing an attractive one. One of these studies concluded that in heterosexual relationships, niceness is only appealing when combined with other advantageous traits, including physical attractiveness (McDaniel, 2005). In another study, niceness was negatively associated with romantic success, while physical attractiveness and low agreeability combined were more predictive of an active love life for men (Urbaniak & Kilmann, 2006). The studies on adult mating preferences show that physical attractiveness may have an overall effect that may be difficult to overcome, even after learning about another’s personality. However, a limitation of these studies is that the niceness cues might not be salient because they are vague (e.g., the experimenter tells the participant that the to-be-judged person is nice) (Urbaniak & Kilmann, 2006; McDaniel, 2005), while attractiveness cues are directly available to the participant (e.g., by looking at a photograph). Thus, studies that better equate the salience of personality and physical attractiveness may yield different results.

One study on children’s friendship teased apart attractiveness, athletic ability, and sociability in third grade children’s friendship decisions. These children were asked to pick which new student they would want to show around for a day after looking at pictures rated for attractiveness that were paired with personality descriptions (of either sociable, athletic, or children lacking either trait). Zakin (1983) found that when physical attractiveness was pitted against sociability and athletic ability, children overwhelmingly chose the physically attractive child for
a friend, even if he had no social or athletic skills. This study is the only study that teases apart the contributions of personality and physical traits in children’s friendship decisions. One limitation of this study, however, is that Zakin’s (1983) friendship measure may have actually been testing social preferences about who a child wants to be seen with rather than who they actually want to form a longer-term reciprocal relationship with. Using this measurement, perceived popularity and visual cues may have played a bigger role than personality, but these results might not be replicated if the measure were a better assessment of actual friendship choices. Another limitation is that athletic and social ability may not be as important as basic kindness in friendship decisions. Due to the importance of niceness as a relevant social cue, it is striking that no studies have been conducted in order to test the relative importance of niceness and physical attractiveness in younger children’s social preferences.

The main purpose of this study is to determine which trait, physical attractiveness or niceness, is a more critical determinant in friendship decisions. At around three and four years old, especially when enrolled in preschool, children are able to establish friendships with a wider selection of peers. Furthermore, it has been well documented that during the early preschool years children have meaningful interpersonal relationships with their peers (Denham & McKinley, 1993). Here we explore young children’s friendship decisions as a window onto the development of social preferences over the lifespan. Studies on real-world classrooms and on sociometrics indicate that physical attractiveness has an effect on the choices of young children, but the size of the impact is
unknown. Studies have shown that this preference in adulthood can lead to physically attractive people having more success in their romantic and professional lives. How does the impact of physical attractiveness compare with that the impact of actual skill and personality?

On the one hand, given the obvious evolutionary visual influence of physical cues on mating and social status we may expect attractiveness to be the dominant social cue. Physically attractive people are generally treated better and studies closely related to the present study show a physical attractiveness preference that overrides other desirable personality traits. On the other hand, given that humans are clearly sensitive to prosocial actions, and given that we are testing preschool children who are not making choices about mating partners, niceness may be a better predictor of friendship choices. Even infants are able to distinguish prosocial abstract shapes from antisocial abstract shapes, and recent research suggests that displaying niceness may be evolutionarily advantageous (Hamlin, Wynn, & Bloom, 2007; Hardy & Van Vugt, 2006).

The current studies test the relative contributions of physical attractiveness and kindness in very young children’s friendship decisions. I conducted two preliminary studies to ensure that my experimental design replicated expected preferences for attractive over unattractive and for nice over mean. In the critical experiment, physical attractiveness and niceness were pitted against each other. Children are asked to decide whom they want as a friend: an attractive child who performs antisocial behaviors (e.g., pushing and stealing), or an unattractive child
who performs prosocial behaviors (e.g., sharing and including). If preschool children generally weigh physical attractiveness more strongly than kindness, then we expect them to make friendship choices based on the pictures shown instead of action descriptions. If preschool children generally weigh niceness more strongly than physical attractiveness, then we expect them to choose friends based on which child performed a nice behavior instead of whose picture they prefer. Finally, it is possible that the preference for both of these cues is so strong that neither cue is generally preferred over the other, or that individual children are idiosyncratic in their friendship choices, with some weighing physical characteristics more heavily and others giving more weight to prosociality.

**General Methods**

**Stimuli**

*Photographs* Stimuli consisted of color photographs of preschool aged children selected from online photo databases. Photos were adjusted to enhance image quality for contrast and coloration and placed against a gray background. Clothing cues were minimized using Adobe Photoshop. Sixty adults rated the pictures using a 7-point Likert scale (1=very unattractive, 7=very attractive), with high inter-rater reliability (Cronbach’s alpha=.97). We used adult raters because previous research has shown that children and adults have similar preferences in what they consider attractive (Langlois et al., 2002). An initial pool of over 60 faces was drawn from websites in the public domain (e.g., child modeling sites). Stimuli were selected by choosing four photos of each gender with high and low mean attractiveness ratings and low standard deviations, yielding a final stimulus
set of 16 faces (four attractive males \((M=5.06, SD=.43)\), four attractive females \((M=5.16, SD=.21)\), four unattractive males \((M=2.28, SD=.4)\), and four unattractive females \((M=2.52, SD=.18)\)).

*Stories* Stimuli consisted of anecdotes describing nice and mean behaviors. For example, a nice anecdote used in the experiments read like “This is Nina. She knew a girl named Lori. Lori forgot to bring her lunch. Nina shared her peanut butter and jelly sandwich with Lori.” A mean anecdote example was “This is Andrea. She knew a boy named Greg. Greg loved his new truck. Andrea took it and threw it against a tree and it broke.” Sixty adults rated the stories on a 7-point Likert scale (1=very mean, 7=very nice), with high inter-rater reliability (Cronbach’s alpha = .96). The four stories with the highest \((M=6.35, SD=.35)\) and lowest \((M=1.59, SD=.13)\) average ratings were selected.

*Friend box* The “Friend Box” was a small decorated box with Velcro lining. Before the experiment, each participant was told about the box using the following script: “Do you see this box? It is a very special box. This is your friend box. That means that I am going to tell you stories about some people I know and then you get to pick who you like and want to be friends with. You get to put them in this box. You should only put in people you like and no one you do not like.” After every trial, each participant got to place a small picture of the chosen friend into the box.
Memory Check  A memory check was used in experiment 1A and experiment 3.¹ After the 2nd and 4th trials, each participant was asked a question concerning who performed the actions mentioned in the stories for that trial. If the participant could specify (by pointing correctly to) the correct person, it was counted as having remembered the story.

Friendship Justifications  After each trial, we asked participants why they picked each friend. We coded every response as either relevant, irrelevant, or uninformative. An example of a relevant response given by a subject is “because she was beautiful” as a justification for picking one girl over another. An example of an irrelevant response given by a subject is “I like playing in sandboxes.” An example of an uninformative response given by a subject is “because” or “I wanted to.”

Participants  Participants included children ages 3 to 5 recruited from preschools in central Connecticut and local children who came in to the campus child development laboratory with their parents.

Experiment 1

In Experiment 1, we tested whether preschool children actually prefer physically attractive peers over unattractive peers. Although this finding is well documented, we wanted to ensure that our sample of faces would produce the same result.

Experiment 1A

Participants  Participants were 18 preschool children (M = 4.0 years, SD = 0.743,

¹ A memory check could not be performed in experiment 1B because the stories for each child in a pair were identical.
range= 2;11 months to 4;9 months; 7 males, 11 females) recruited from several preschools in Connecticut. Children came from primarily white, middle-class families and were recruited through permission letters sent home to parents. One female experimenter tested each child individually.

Procedure Each participant received four trials. On each trial, an attractive picture was paired with an unattractive picture. The pictures were matched on the basis of sex (e.g., attractive female and unattractive female). Children were told stories about each of the children in the pictures. Depending on the trial, the stories described either both nice or both mean behaviors. After each trial, the subject was asked which person he/she would want as a friend. The participant then chose that picture to put in the “Friend Box.” Participants were also asked why they chose this child as a friend, and their justifications were recorded. Presentation of faces and stories was counterbalanced across participants

Results

Overall Preference. The findings did not support the well documented preference for attractive faces. Children chose attractive peers on 46.3% of trials, not significantly different from chance, $t(17)=-.547, p=.296, \text{n.s.}$

Sex, Age, and Stimulus Sex Effects. If friendship decisions are rooted in evolutionarily based mating preferences, we may expect to see different patterns of performance for children looking at opposite-sex stimuli than same-sex stimuli. A repeated measures ANOVA was performed to assess the effects of Sex, Age,
and Stimulus Sex on friendship choices. In order to test for Age effects, we split females and males into two groups: older and younger than 50 months. We found no significant effects for Sex ($F(1,18)=.003, p=.954, \text{n.s.}$) or Age ($F(1,18)=.344, p=.567, \text{n.s.}$), and no Age by Sex interaction ($F(1,18)=.417, p=.529, \text{n.s.}$). Using Pillai’s Trace, we found no significant interaction between Stimulus Sex and Sex of the participant, $F(1,18)=.019, p=.61, \text{n.s.}$.

*Verbal Justification.* We found that 45% of responses were relevant, 19.6% of responses were irrelevant, and 35.3% of responses were uninformative.

*Memory Check.* Children remembered the stories significantly better than 50% chance, $M=.78; t(31)= 3.791, p<.0001.$

*Discussion.* In this experiment, children did not significantly pick attractive friends over unattractive friends. We hypothesized that that there were many factors in how we tested experiment 1A that contributed to this unusual finding. Although we tried to make the stories equivalent (either both nice or both mean, according to adult raters) in each trial, we discovered that children had preferences for which story was nicer. Furthermore, they appeared to choose friends based on the relative niceness of the stories instead of on attractiveness alone. Therefore, although the children’s deeds were supposed to be interpreted as equal, children felt that some actions were nicer than others. I also wondered whether children exhibited idiosyncratic attractiveness preferences that differed from the adult attractiveness preferences. Although some studies have shown that children and adults give similar physical attractiveness ratings, after our experiment children’s story justifications led us to question whether we would
replicate this result. For example, one participant picked the child rated as “unattractive” by adults and stated it was because “she has pretty hair.” These limitations were addressed in Experiment 1B, in which I tested for the standardly documented preference for attractive over unattractive with a new experimental design.

*Experiment 1B (Attractive vs. Unattractive)*

Experiment 1B was designed to address the two major limitations of 1A which may have prevented the children from showing a preference for attractiveness in our participants. First, I matched two different stories that were rated similarly on the niceness Likert scale. Unexpected preferences were found for one story over another, even though the stories had been intended to convey the idea that both children either did a nice or mean thing. To address this problem, a single action was chosen for each trial, and the participants were told that each child in the pair was doing exactly the same thing. For example, “This is Dana and this is Phoebe. Both girls took Bobby’s lollipop and threw it in the sand.” Furthermore, because the experimenter talked with the children about the stories but not about physical appearance, I was concerned that the stories were much more salient than the photographs. Thus, children may not have chosen the more attractive child because they may not have been attending to the physical appearance of the people in the photos at all. Therefore, a short pre-test was added during which children were shown each stimulus pair and asked participants which child they thought was prettier or more handsome. I anticipated that this manipulation would
help children to encode and process each image without being distracted by the stories. This pre-test also provided an opportunity to test whether children exhibited the same physical attractiveness preferences as our adult raters had.

*Participants* Participants were 26 preschool children (*M* = 3;11, *SD* = 0;4.98; range = 3;2 to 4;8; 10 males, 16 females) recruited from several preschools in Connecticut. Children came from primarily white, middle-class families and were recruited through permission letters sent home to parents. One female experimenter tested each child individually.

*Procedure* Participants viewed two pictures at a time. Each subject received four pre-test and four test trials. In the pre-test, participants were shown each of the photograph pairs and asked to pick whom they thought was prettier or more handsome. In the test trials, attractive pictures were paired with unattractive pictures and sex of the stimuli was matched. While viewing the pictures, the subjects were told one story that concerned both of the children. For example, “This is Lisa and this is Jenny. They both saw a dog sleeping on the side of the road and it looked hungry. They both gave the dog their lunches.” Depending on the trial, the story was either a nice or mean description. After each trial, participants were asked to pick one child to put in their “Friend Box.” Participants were also asked why they chose this child as a friend. Presentation of faces and stories was counterbalanced across participants.

*Results*

*Overall Preference.* Children chose attractive stimuli children as friends significantly more than unattractive photos, *M* = .69; *t*(25) = 4.88, *p* < .0001. Thus,
minor changes to the procedure from Exp 1A uncovered the well-documented attractiveness preference. Look at Figure 1 to see the distribution of results.

![Figure 1: Distribution of results in Experiment 1](image)

**Sex, Age, and Stimulus Sex Effects.** A repeated measures ANOVA was performed to assess the effects of Sex, Age, and Stimulus Sex on friendship choices. For the purposes of data analysis, males and females were split into two age groups (older and younger than 50 months). Older females chose attractive friends on 68.78% of trials; younger females chose attractive friends on 68.18% of trials; older males chose attractive friends on 81.25% of trials and younger males chose attractive friends on 62.5% of trials. We found no main effects for Sex, $F(2,26)=.012$, $p=.914$, n.s., or age, $F(1,26)=.502$, $p=.486$, n.s. We found no
significant interaction between Age and Sex of participants \( (F(1,26)= .240, p=.629, \text{n.s.}) \). Using Pillai’s Trace, we found no significant interaction between Stimulus Sex and Sex of the participants, \( F(1,26)=.004, p=.77, \text{n.s.} \).

**Verbal Justifications.** We found 33.4% of responses were relevant, 14.5% of responses were irrelevant and 51.6% of responses were uninformative.

**Discussion.** These results confirmed the hypothesis that young children have a preference for physical attractiveness. Thus, using identical story frames and doing a pre-test focusing on physical appearance seem to have helped children to notice attractiveness. Furthermore, a non-significant trend was found that suggested that older males have a stronger preference for attractiveness than the other three groups.

**Experiment 2**

The aim of Experiment 2 was to test whether children do prefer niceness over meanness. I hypothesized that children would be more likely to choose a nice peer over a mean peer when making friendship decisions, in accord with the previous literature.

**Participants** Participants were 25 preschool children \( (M= 4;2, \ SD= 0;5.44, \text{range}= 3 \; 7 \text{ to } 4;11; \) 14 males, 11 females) recruited from several pre-schools in Connecticut. Children came from primarily white, middle to upper-middle class families and were recruited through permission letters sent home to parents. One female investigator tested each child individually.

**Procedure** Participants viewed two pictures at a time. Each subject received four trials. On each trial, attractiveness was matched for each pair (either both were
attractive or unattractive). The pictures were also matched on the basis of sex. Participants were told stories describing a relatively nice behavior for one child (e.g., sharing a sandwich with a classmate) and a relatively mean behavior for the other child (e.g., purposefully breaking a classmate’s toy). Each participant was given the “Friend Box” accompanied by the same instructions used in Experiments 1A and 1B. After hearing the stories and seeing the faces, participants were asked which child they wanted to put in their Friend Box. Participants were also asked why they chose each child as a friend. Presentation of faces and stories was counterbalanced across participants.

**Results**

*Overall Preference.* In experiment 2, subjects selected nice friends an average of 69.5% of trials. This was significantly above 50% chance, \( t(24)=3.28, p<.001. \) Look at Figure 2 to see the distribution of results.
Sex, Age, and Stimulus Sex Effects. A repeated measures ANOVA was performed to assess the effects of Sex, Age, and Stimulus Sex on friendship choices. We found a significant effect of Sex, $F(1,25)=1.94, p=.03$. Overall female children chose a nice peer 81.8% of the time (compared to 50% chance, $t(9)=4.33, p<.001$), while male children chose a nice peer on 59.8% of trials (compared to 50% chance, $t(13)=1.15, p=.134, \text{n.s.}$). To test for Age effects, we split females and males into two groups: older than 50 months and younger than 50 months. We found no significant main effect for Age ($F(1,25)=1.27, p=.272, \text{n.s.}$). We found no significant interaction between Age and Sex, $F(1.25)=.41, p=.529, \text{n.s.}$ The older female group was the only group that chose nice friends significantly more than mean friends, $M=.89$, $t(6)=5.29, p<.001$. However, this is most likely a result of low power, as older males and younger females also
showed a strong but non-significant trend toward choosing nice friends. Older males chose nice friends on an average of 67.8% of trials; younger females chose nice friends on an average of 68.75% of trials, and younger males choose nice peers on 51.79% of trials. Using Pillai’s Trace, we found no significant interaction between Stimulus Sex and the Sex of the participants, $F(1,25)= .087, p=.182$.

Verbal Justifications. We found that 54% of responses were relevant, 7% of responses were irrelevant, and 38.2% of responses were uninformative.

Discussion. These results support the hypothesis that children prefer niceness over meanness. With all else being equal, children tend to prefer nice friends, who are more likely to offer consistent benefits (e.g., sharing, altruism, reciprocity), over mean ones.

Experiments 1B and 2 established that the stimuli could be used to elicit both a niceness preference and an attractiveness preference when controlling for the other dimension. Moreover, the strength of the overall preference was nearly identical in each case (69.0% in Exp 1 b and 69.5% in Exp 2). In Experiment 3, two equally weighted preferences were pitted against each other to see which social cue children attended to in their friendship choices.

Experiment 3

Experiment 3 explored whether children prefer physical attractiveness (an appearance variable) over niceness (a personality variable) when choosing
potential friends. Considering that children have strong preferences for both cues, I wanted to know what type of friend children would pick if they had to choose between someone relatively attractive but meaner and someone less attractive but nicer.

Participants Participants were 24 preschool children ($M=4;2, SD=0;4.7$; range=3;6 to 5; 12 males, 12 females) recruited from several preschools in Connecticut. Children came from primarily white, middle class families and were recruited through permission letters sent home to parents. One female experimenter tested all children individually.

Procedure Participants viewed two pictures at a time, for four trials. Before the test trials, participants were given a pre-test in which they were shown each of the pairs and asked to pick out who they thought was prettier or more handsome, as in Experiment 1B. On each test trial, attractive pictures were paired with unattractive pictures, and sex of stimuli was matched. While viewing the pictures, the subjects were told stories describing a relatively nice behavior for the unattractive child (e.g., feeding a hungry dog) and a relatively mean behavior for the attractive child (e.g., throwing rocks at a dog). After each trial, participants were asked which child they wanted to put in their “Friend Box”. Participants were also asked why they chose this child as a friend. Presentation of faces and stories was counterbalanced across participants.

Results

**Overall Preference** Overall, we found no significant divergence from chance on friend choice, $M=.45, t(23)=1.02, p=.231, \text{n.s.}$). However, this result was
confounded by the fact that children had idiosyncratic attractiveness preferences: during the pre-test, many reported the “unattractive” child as prettier or more handsome. In order to get a more accurate reading of attractiveness preference, we restricted our analyses to the trials in which the child’s initial attractiveness rating matched that of adult raters. We excluded all trials in which children picked the unattractive child as the more attractive one in a pair. In these instances, niceness and physical attractiveness would be confounded because unattractive children were always paired with nice stories. With the restricted set of data, we still did not find a significant preference for niceness or attractiveness, but there was a non-significant trend indicating a preference for physical attractiveness, $M=.63; t(23)=1.52, p=.07$. Look at Figure 3 to see the distribution of results.

![Figure 3: Distribution of results in Experiment 3](image-url)
Sex, Age, and Stimulus Sex Effects. A repeated measures ANOVA was performed to assess the effects of Sex, Age, and Stimulus Sex on friendship choices. In order to test for age effects, we split females and males into two groups: older than 50 months and younger than 50 months. We found significant effects of Age ($F(1,24)= 3.125, p=.045$) and Sex ($F(1,24)=8.524, p<.01$.) Males chose attractive friends 82.77% ($t(10)=5.32, p<.0001$) of the time, while females chose attractive friends on 44.72% percent of trials ($t(10)= -.57, p=.29, n.s.$). We also found significant Age by Sex interactions, $F(24)= 8.144, p=.025$. Older males chose attractive friends on 84.5% of trials ($t(6)=4.422, p=.002$) and younger males chose attractive friends on 81.0% of trials ($t(6)=2.611, p=.04$); there was no significant difference between the two groups and both groups chose attractive friends significantly more than unattractive friends. Older females chose attractive peers 19.44% of trials ($t(6)= -2.447, p=.029$), while younger females chose attractive peers 70% of the time ($t(4)=.7, p=.189, n.s.$) younger females chose attractive peers significantly more often than did older females, $t(12)=2.22, p=.02$. Thus, the Age x Sex interaction indicated that older females generally chose friends who exhibited prosocial behavior, while younger females, younger males, and older males tended to pick friends based on physical attractiveness. Using Pillai’s Trace, we found no significant interaction between Stimulus Sex and Sex of the participants, $F(1, 24)=.407, p=.123, n.s.$.

Verbal Justifications. We found that 49% of responses were relevant, 9.5% of responses were irrelevant, and 41.5% of responses were uninformative.
Memory Check- We found that children significantly remembered the stories significantly better than 50% chance, $M=.76$; $t(45) = 4.10, p < .0001$.

Discussion. Initially, I hypothesized that there were substantiated reasons for children to choose friends based on attractiveness or niceness. No previous experiments with this age group have pitted physical attractiveness against niceness, and there is strong evidence that both variables play a considerable role in friendship decisions. Although it was not significant, results showed a trend towards children choosing attractive-mean friends over unattractive-nice friends. This trend was led by male subjects. No male subjects, regardless of age, chose nice companions more than attractive companions—over 4 trials, all males ($N=12$) chose attractive-mean peers at least 50% of the time. In contrast, older females were the only group that significantly preferred nice-unattractive peers. Combined, the low average of the females and the high average of the males yielded no clear preference patterns. These results indicate that physical attractiveness is a socially influential trait and that many children do judge the book by its cover, even when given negative feedback about its contents. However, the failure to find a significant difference from chance responding is fully explained by the drastically different decisions of our male and female participants. Furthermore, the age range we tested showed developmental change in the female group. By the time girls turn four, their preferences drastically change from physical attractiveness to niceness.
General Discussion

This study explored the independent effects of physical attractiveness and niceness on friendship decisions in preschool children. Numerous studies have documented the importance of physical attractiveness and kindness in developing and maintaining relationships. However, few previous studies have evaluated their relative weight. The present study started at the source by examining how these two cues interact in young children’s social preferences. In experiments 1 and 2, children generally exhibited preferences for physical attractiveness and for niceness, replicating previous findings (Langlois et al., 1990; Slater et al., 2000; Dion, 1973). Furthermore, the overall strength of these preferences was relatively equal (about 70% of trials overall in both cases). Given these findings, the critical experiment tested which dimension preschool children would value if made to choose between them. The results showed that children, as a group, do not demonstrate an overwhelming preference for attractiveness nor niceness. Rather, the data showed a marked sex difference in social preference decisions in place by the age of four. Three- and four-year-old boys consistently chose on the basis of attractiveness, while girls showed a developmental transition over this time period, from attractiveness- based judgments to personality-based ones.

The stark sex difference in four-year-olds contrast with the relatively similar performance of three-year-olds of both sexes, which suggests the onset of a developmental trend. Specifically, four-year-old girls appear to choose friends on the basis of personality variables, which is markedly different then the friendship strategies of four-year-old males who choose based on physical attractiveness.
There are few studies that directly compare the effects of niceness and physical attractiveness independently, especially in childhood. However, studies on adult heterosexual relationships have tried to parse out the importance of these traits, and their findings resemble data from the present study (Li et al., 2002; Buss, 1989). Survey studies suggest that men value physical attractiveness in future mates, while women want their mates to display desirable personality characteristics and provide security (Li et al., 2002; Buss, 1989). Although this study was designed to measure young children’s preferences in choosing friends, not mates, the striking continuity between our four-year-old data and the adult mating literature suggests that the preferences present in early childhood may affect decisions about heterosexual romantic relationships.

Because numerous studies have found that women say they want a mate with positive personality characteristics and that men highly rank physical attractiveness over other internal and external traits, some theorists have interpreted these results in the light of evolutionary theory. This theory predicts that individuals of both sexes would be generally concerned with the physical attractiveness and personality variables of their partners, but adult males and females would assign different weights to each variable. In support of this theory, both men and women do prefer physically attractive partners, but this preference has shown to be more important to men than it is to women (Buss, 1989; Li et al., 2002). Physical attractiveness is an indicator of general genetic quality and fertility. In contrast to women, who can only have a limited amount of offspring,
men can theoretically father hundreds of children. Men’s predicted parental investment is modest and, therefore, evolutionary theory predicts that males would want to search for a mate who would be reproductively successful, indicated by youth and physical attractiveness. In contrast, evolutionary theorists argue that women prefer to choose mates who are able to invest social and material resources in their children. Buss (1989) found that women ranked more highly a potential mate who was kind and understanding. Having a nice mate is evolutionarily beneficial; women want a partner who will put her needs and the needs of their children before his own. The results of the present study could be taken as early precursors of adult mating preferences, with the males consistently choosing friends based on physical attractiveness and the older female consistently picking nice, but unattractive friends.

The current data are seemingly inconsistent with a strictly evolutionary interpretation because we found no effect so stimulus sex—children were just as likely to choose based on attractiveness for male friends as for female friends. These results may not be a surprise, considering that children only begin to show strong gender identification around 4-5 years old (Maccoby, 1990). If children do not have concrete representations of which gender they are, they might not be able to limit or enhance preference strength based on the sex of the stimuli. Because the data showed that stimuli sex did not influence friendship choices, this could be taken as evidence that the data does not show the beginning of a mating strategy. On the other hand, it could be possible that general preferences do exist in early childhood that are refined with age and development.
Although the evolutionary explanation, positing an innate sex difference, is plausible, I posit that the leap from three to four years could mark a significant period for the internalization of socially constructed gender roles and the establishment of lifelong preferences. It is clear that gender messages are prevalent in children’s lives before birth and onward (Condry & Condry, 1976). Children in the U.S. are given gender-specific names, dressed in gender-typed colors and clothing, and given stereotypically male or female toys to play with. Studies have shown that preschool children in the U.S. watch almost 30 hours of television per week and these shows influence ideas about gender, as well as children’s display of prosocial and antisocial behaviors (Anderson, Lorch, Field, Collins, & Nathan, 1986; Aulette, 1994; Kaplan, 1991).

By the time children are four years old, they have been bombarded with messages detailing the behavioral expectations of their gender. Accordingly, it is not surprising that behavioral sex differences are observable between children as young as two years old; in stressful situations girls show more emotional distress and boys respond with more aggression and acting-out behaviors when adults argue (Zahn-Waxler, Cole, & Barrett, 1991). Behavioral sex differences in children are similarly reported in more naturalistic and less-stressful environments. Moreover, girls make more prosocial interventions than do boys when their mothers are visibly upset (Zahn-Waxler, Cole, & Barrett, 1991) Girls are considered by parents and teachers to be more cooperative, empathetic, and less aggressive and they are expected to be interested in forging and keeping
relationships (Letendre, 2007). In school, boys tend to play together competitively in larger groups, whereas girls tend to gravitate towards smaller, more intimate interactions that facilitate sharing personal concerns and feelings (Maccoby, 2000). Whiting and Whiting (2008) found that girls are more likely to be altruistic and offer help and support to their friends and family. A recent study found that that gender role identity, as opposed to sex, predicted levels of empathy (Karniol, Gabay, Ochion, and Harari, 1998). Sex refers to biological and chromosomal differences, while gender describes masculinity and femininity, which are defined by culture and society. There is evidence that girls receive more support and encouragement in talking about emotions at home (e.g., Dunn, Bretherton, & Munn, 1987; Kuebli, Butler, & Fivush, 1995) With this training, they are more likely than boys are to learn to be more interested in interpersonal dilemmas and to respond empathically to them. Meredith Small went as far as to say that little girls are socialized to be nice (2001).

These gender differences in adults’ expectations may have influenced older girls’ decisions in Experiment 3. Instead of choosing attractive yet mean friends in Experiment 3 (who were known to push and steal), older girls chose to be friends with nice unattractive children (who shared and were inclusive). Four year old girls also showed a stronger preference for nice peers than did the other children in Experiment 2.

Boys, on the other hand, are expected to be rambunctious, tough, and competitive with peers. Burford, Foley, Rollins, and Rosario (1996) reported that boys were more likely than girls to exhibit demanding, coercive behavior with
each other. Their relationships are believed to be driven by desires for power or status. Whiting and Whiting (2008) found that boys tend to be more egoistic and more likely to seek dominance in relationships. Perhaps the boys in the current study did not view transgressions as mean, but as normal peer interaction. Masculine social relationships are reportedly driven by status, and physical attractiveness is a status characteristic (Whiting & Whiting, 2008). Being kind and warm does not lead to higher status in peer groups, but being physically attractive does (Anderson, John, Keltner, & Kring, 2001). Therefore, a physically attractive, mean friend may be more desirable for boys who have been socialized to have relationships built on aggression, dominance and status.

Up until the age of four, children do not fully appreciate what it really means to be one sex or the other, often mixing up their own sex and the sex of others (Mussen, Konger, Kagan, & Huston, 1990). Around the age of four, children develop gender constancy, in which they believe that sex is fixed and they display ideas of strict parameters of sex roles (Mussen et al., 1990). This could be important for the current study because younger children may not yet identify with the gender normative behaviors expected of them (e.g. girls choosing friends based on niceness). If this is the case, younger children may be choosing friends based on a default preference for the attractive, while older children are guided by their internalized gender schemas. In accordance with this proposal, the age at which we found a divergence in attractiveness and niceness preferences closely corresponds with the internalization of expected gender roles.
In light of my data and evidence supporting early gender socialization, I argue for an alternative view that acknowledges the evolutionary importance of physical attractiveness, but does not endorse inborn sex differences. In this view, humans have an innate preference for physical attractiveness, but females are socialized, against their nature, to choose friends and mates based on niceness. This preference can be seen as evolutionarily advantageous for both sexes because physical attractiveness signifies reproductive fitness (Buss, 1989). Darwin (1871) himself hypothesized that "when existing environmental conditions create the opportunity to choose from among an array of potential mates, both sexes will select partners not for mental charms, or property, or social position, but almost solely from external appearance." Facial regularity and symmetry are visual markers for what is considered physically attractive as well as signatures of health, such as genetic resistance to parasites (Gaulin & McBurney, 2001). In the womb and throughout maturation, humans are exposed to thousands of parasites and individuals who do not have robust genes are born with asymmetric and irregular faces (Gaulin & McBurney, 2001). Furthermore, evidence from experiments on adult mating preferences suggest that although men are more likely to emphasize the importance of physical appearance in self reports, both men and women are equally influenced by physical attractiveness, and people of both sexes desire to date an attractive partner (Sprecher & Regan, 2002; Regan; Levin, Sprecher, & Christopher, 2000). In addition, females in other species base their mate selections on physical appearance; the peacocks with the most vibrant tails are picked as sexual partners by the females, who are much duller and more
camouflaged.

If an innate preference for physical attractiveness could be evolutionarily beneficial, then why do four–year-old females choose friends based on niceness? At age four, children develop a sense of their gender identity that has been set up for them by the society in which they live. In the United States, girls are socialized to be nice. According to my theory, this preference is based on societal context, not innate desires. I further theorize that this is why we see the “Nice Guys Finish Last” dating phenomenon. When asked, girls say they want a nice guy, but their internal preferences lead them to pick attractive mates. This may not be the result of untruthfulness, but of the confusion of having to combat innate preferences because society is telling girls that they need to choose based on niceness and personality. Because of social pressure, girls say they want a nice guy, but they are drawn to attractive men, who may or may not be nice.

In this vein, many of the children in the present study could not articulate why they made their choices (as evidenced by their uninformative justifications.) Many of the participants in my study choose attractive friends, but when asked why, many said it was because they wanted to or they did not know. A surprising result of this study is that a physical attractive preference was found using friendship choices. This preference is so strong that it spills over into nonsexual social interactions. In short, there are many reasons to believe that humans have an evolutionarily advantageous innate preference for physical attractiveness, but that girls in our society are socialized to outwardly prefer niceness.
Limitations of the current study

Certain limitations of the present research must be addressed. Findings from the study are most relevant to predominantly white, middle class North American preschool populations. The extent to which findings generalize to populations of different socioeconomic status or ethnicities is unclear. The United States is not homogeneous, and certain cultures within it might value different personality and physical characteristics and socialize their children in ways that promote these cultural values which may produce dissimilar results. Also, because these results may have to do with gender socialization practices, preschool-aged children exposed to different gender expectations may exhibit different patterns of results.

Furthermore, although the photographs were ranked by independent adult raters, it seems that there is much more variation in the attractiveness ratings of children. This is surprising given the evidence for a universal schema for what constitutes attractiveness (Langlois et al., 2000; Perrett et al., 1994). Future studies may benefit from applying the prosocial and antisocial stories to the photos that the children describe as more attractive and unattractive, instead of relying on adult ratings. One caveat, however, is that a number of children in Experiment 1 explicitly endorsed the conventionally unattractive child was more attractive in the pre-test, but still chose the standardly attractive child as their friend. Since physical attractiveness was the only variable in which pairs varied, the children may have been choosing friends based on an implicit attractiveness preference to which they did not have explicit access when probed directly.

In addition, because the current study used pictures instead of videos or real
life interactions, the effects of attractiveness could be stronger in a natural setting. The pictures were head shots and were not able to capture all facets of attractiveness, such as body type, posture, and gait. In the same vein, effects of niceness preference could be stronger in a naturalistic setting. Participants were given the experimenter’s testimony about of prosocial and antisocial acts, but did not witness them first-hand. One concern is that children may have demonstrated an attractiveness preference if their first-hand perception of a photograph was more salient to them than the experimenter’s second-hand narrative. It has been documented that children attribute positive behaviors and personalities to good-looking people and less sociability and altruism to unattractive people (Griffen & Langlois, 2006). If children relied more heavily on the knowledge from the pictures, instead of the stories, they may have been picking more attractive friends because they assumed them to be nicer as well as more attractive, despite their transgressions. However, this explanation seems unlikely because the overall strength of the preferences were equal in experiments 1 and 2. Furthermore, the experimenters had to do a manipulation to draw children’s attention to attractiveness (adding a pre-test) -- it was not by definition more salient.

Another important limitation in the study is that for most of the experiments, there was only one experimenter, who was female. Although this kept one variable constant, only having a female investigator may have influenced responses. Girls may have felt more pressure to assume appropriate female gender roles and could have responded in ways they felt were expected of them. In
experiment 1A, there were two experimenters, the female investigator and a male researcher. Although we found no significant effects for gender of experimenter, there was a trend for children to base their choices on the attractiveness of the photos instead of the stories when playing with the male experimenter. While this result may have been due to experimenter’s gender, it could have been due to differences in the way the two experimenters ran the task; thus, we opted for only one experimenter in the rest of the studies. Finally, we did not measure the participants’ attractiveness, which has been shown to have an effect on social preferences based on the attractiveness of the target (Dermer & Thiel, 1975).

Future Directions

The present study has implications about the establishment of social preferences and gender differences throughout the lifespan. It is important to conduct further research on the relative weight of attractiveness and niceness in older children, ages 5 and beyond, in order to understand whether older children also exhibit these gendered preferences and if they change, by either weakening or strengthening with age. Have the data revealed an early stable divergence or just a slight lag in males in shifting preferences from physical to social characteristics? If these gendered preferences are stable throughout maturation, we would expect that in future studies, older children would show the same trend, with boys picking friends based on attractiveness and girls picking friends based on their personalities. However, it could be that males come to prefer niceness or are able to comprehend and use the stories more effectively with development. If this is the case, further studies will show that older males tend to choose nice-
unattractive friends over mean-attractive friends. Taking into account adult heterosexual mating studies, those results are unlikely; there seems to be a lifelong split that begins when children have acquired gender identification at the age of four.

Furthermore, it would be of great value to run this study cross-culturally. Not only would it be illuminating to see how children in other cultures make friendship decisions (considering that we cannot generalize these findings), but if the present findings are not universal, then it will become clear that this gendered split in preferences is a result of the cultural context in the United States. This would provide counter-evidence to the argument that women are innately predisposed towards prosociality. However, perhaps the only way to truly see if there are innate sex differences is to find a society in which there are no gender stereotypes and expectations or to find a reverse polarized society in which women are the more dominant sex.

Also, I cannot be rule out the possibility that our results reflect a preference for the dominant in males, indicated by the “mean” actions, as opposed to a preference for the attractive. Indeed, it is possible that males would even prefer the combination of mean-attractive to nice-attractive, because they view the aggressive actions of their hypothetical friends as showing prowess and strength. The mean-attractive friend could be seen as a rebel, who might be more highly valued than the nice-attractive friend. In order to test this, Experiment 3 would need to be conducted with a full two-by-two design that includes nice-attractive
and mean-unattractive pairs.

It is also important to expand the study of these variables to naturalistic settings, as well as to test how niceness and physical attractiveness play out in long-term friendship, not just first-impression decisions. Finally, future research should consider the possible benefit, if any, of choosing attractive aggressive friends over nice friends. Do children (or adults) achieve long-term benefits, such as increased status, that outweigh the costs of having an unpleasant companion?

Conclusion

The present study extends our understanding of the role of physical and personality variables in early childhood relationships. We find that three-year-old children of both sexes prefer attractive-mean friends over unattractive-nice ones. Around the age of four, male and female children show differential preferences towards nice and attractive peers, with females preferring nice friends and males preferring attractive ones. These results parallel findings about adult mating preferences, suggesting that we are observing a stable divergence that begins at age four and continues to influence friendship and mating choices throughout the lifespan. These results also parallel reported sex differences and developmental trajectories about the internalization of gender norms in western children. I propose that humans are born with an innate preference for physical attractiveness, but girls, in the United States and possibly in other cultures, are socialized against this natural desire, towards a more socially acceptable preference for niceness. In short, the incipient sex difference that we find here may shed light on the importance of physical attractiveness in social interactions.
and how female socialization practices in the United States alter evolutionarily prescribed preferences.
Works Cited


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