PHYSICAL ATTRACTIVENESS AS A THREAT IN INTRAGROUP DYNAMICS

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Abstract

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This experiment focuses on an area not heavily touched on within social psychology—physical attractiveness and intragroup dynamics. When joining a group, a physically attractive individual may cause existing group members to feel unsure about their own attractiveness, prompting potentially negative perceptions and actions towards the new member. This work addresses physical attractiveness in the context of a small group with a 2 (self-prototypicality: prototypical vs. peripheral) x 2 (target status: newcomer vs. old-timer) x 2 (target attractiveness: attractive vs. non-attractive) experimental design. Participants (N = 147) played an online game, "Speedy Ball", which is designed to simulate a small group context. Dependent measures included feelings of uncertainty, self-attractiveness, and group identification, as well as perceptions of warmth, competence, and distance from the other members of their group. In addition, participants also picked a member for leadership and a member to be removed from the group. Results did not provide conclusive evidence to support the hypothesis that newcomer attractiveness is threatening in an intragroup context. Somewhat contrary to predictions, participants who were peripheral rated the attractive target higher in warmth than the unattractive target. In addition, participants tended to promote attractive individuals to leadership and tended to remove unattractive targets from the group.

Interestingly, while participants removed fewer attractive targets, they removed more newcomer attractive targets than old-timer attractive targets. This trend was not present for the unattractive targets, suggesting that old-timer status may matter for attractive individuals in avoiding removal from the group. The study demonstrates the complexity of studying intragroup contexts and makes a case for including individual characteristics in future research regarding newcomer acceptance.

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Introduction

In the film *Mean Girls*, Cady is a new student at a suburban high school. As she adjusts to the life of public school, she begins to notice the different cliques and groups that form amongst her peers. The most popular group, "The Plastics", maintains a status that rules over all other groups. When the leader of the group invites Cady to join the group, Cady must quickly learn the etiquette and rules of the group to gain entry into the group (Michaels & Waters, 2004). While the newcomer (Cady) learns the rules of a new social group ("The Plastics"), the current members work to reestablish their roles as the dynamics of a group change and (Moreland & Levine, 1989). The addition of a group member promotes uncertainty among older group members, as older group members wonder about the newcomer's capabilities and their own security within their group (Gallagher & Sias, 2009).

Mean Girls is a comedic example of the real-life challenges of the integration of newcomers and intragroup contexts. It is important for these processes to be studied, as joining social groups is a crucial aspect of life and identity (Hogg, 2006). Joining a group has several advantages for an individual. Uncertainty-reduction, self-esteem, and discovery of identity are just a few of the potential benefits (Hogg, 2009). However, not everyone is able to assimilate into groups as easily as they wish. Age, gender, status, and physical characteristics play a role in a group's acceptance of a new member (Moreland & Levine, 1989). Moreover, feelings of uncertainty of place within the existing group may prompt different, potentially negative perceptions of the newcomers. For example, Regina, the leader of The Plastics, experiences uncertainty in her group position as she

slowly loses control over her looks, social life, and her standing with the other group members. When Cady becomes physically attractive by the group's standards, the group leader, Regina, feels the most threatened by Cady. The new addition of Cady to the group changed the group dynamics and structure by altering group members' roles, positions, and relationships within the group. Existing group members strive to reestablish order and status within the group (Moreland & Levine, 1989). This re-ordering process is stressful for the group, and the accumulation of multiple stressful factors may push perceptions of the newcomer to be less positive than the group's old-timers.

Literature Review

Social Identity

Social identity theory describes the process of establishing oneself as a member of a group to define one's identity (Tajfel & Turner, 1979). Social identity theory was derived from Henri Tajfel's work with social categorization, prejudice, intergroup conflict, and social perceptions (Tajfel & Turner, 1979). Since its inception, the theory has expanded to explore several other aspects of social psychology, including uncertainty-reduction (Hogg & Mullin, 1999; see also Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007; Hogg, 2009; Hogg & Adelman, 2013), leadership (Hogg, 2007), health (Bizumic, Reynolds, Turner, Bromhead, & Subasic, 2009), education (Cruwys, Gaffney, & Skipper, 2017), and a variety of other social phenomena. Social identity theory originally focused on intergroup relations and social change, but has since evolved to analyze both intragroup and intergroup contexts. Social identity theory outlines how individuals identify through group membership and how their membership shapes their interpersonal interactions and drives their behavior (Tajfel & Turner, 1979).

Group members define themselves and others with respect to group membership; specifically, who is in their group and who is not (see Abrams & Hogg, 1988; Hogg, 2006; Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). The group members define themselves and their identity with respect to their group and, as consequence, the attributes that they have in common with fellow group members. For example, the Chicago Cubs home stadium, Wrigley Field, bears the nickname "The

Friendly Confines". Fans of the Cubs may seek to exemplify this attribute and live up to the name by remaining pleasant to fans of opposing teams within the stadium, as if to uphold the stadium's reputation. In contrast, fans of the San Francisco Giants and the L.A. Dodgers are known for their rivalry, which often takes place in the form of violence, as witnessed in the stadium-wide fight on June 29th, 2017.

Group membership can be a positive source of identity because the group provides the individual with a set of beliefs and social norms to follow (Tajfel & Turner, 1979). Social norms are the general "rules" of behavior that groups enforce. Social norms give group members a sense of direction and information about how to behave within the group. Individuals often turn to other group members to received feedback and clarification about the group's norms. Ingroups are sources of both informational and normative influence for which group members can use as reference for their attitudes of behavior (Turner, 1991). Because people base their identity and self-concept on their group membership, they strive to be liked by their group. Normative information provides group members with information about their position within and perceptions of their ingroup, thus providing them with information about their own identities. Members of a group look to their ingroup peers for information to understand a concept, group stance, or to gain a better understanding about reality (Turner, 1991; Turner; Wetherell & Hogg, 1989). Referent information influence is the overarching process responsible for such alignment, and includes normative and informational influence (Turner, Wetherell, & Hogg, 1989).

One's adherence to group norms is context specific. Different social contexts allow for certain group identities to become more salient than others and people tend to act under the norms of the most salient group (Haslam & Ellemers, 2011). For instance, Cady acted differently around The Plastics than other groups such as her friends and family. Around her friends and family, Cady dressed in casual clothes, wore little or no makeup, and spoke about her upbringing in Africa. When around The Plastics, Cady aligned with the group's norms by wearing makeup, shopping, and making fun of other people.

Self-categorization. When individuals join a group, they look to other members of the group for information on the group prototype, norms, and acceptable behaviors. The term prototype describes a cognitive representation of a collection of attributes that define the group. Such attributes define a group by highlighting the similarities within the group as well as the differences between the group and other relevant outgroups. A group prototype represents the ideal qualities that members of a group strive to attain (Hogg, 2001). Prototypical group members embody the desired norms of the group and the group's beliefs. Group members look to prototypical members for information about how they should act and behave in a given setting. Moreover, prototypes exemplify similarities present within a group as well as the group's differences from relevant outgroups (Tajfel, 1959). As a result, group prototypes are partially based on promoting a different image than that of a relevant outgroup, which allows members to create a group identity that is distinct from similar outgroups.

Individuals categorize ingroup members and outgroup members as being similar to or different from the group prototype. This process of categorizing the self and others in terms of group membership is known as depersonalization (Turner & Oakes, 1989). Depersonalization enables individuals to make predictions of another person's behavior based on the group that they belong to and how that individual compares to the group's prototype (see Gaffney, Rast, Hackett, & Hogg, 2014). Such predictions allow individuals to reduce their uncertainty by creating educated guesses of others' traits and identity. Self-categorization allows an individual further reduction of uncertainty by information about how to act, think, and feel—information that they can garner from the group prototype. The information provided by the self-categorization process allows individuals to gauge personal performance or status to maintain an accurate self-evaluation—which takes place in the form of social comparison.

Social Comparison. The main assumption of Festinger's theory of social comparison is that within each individual lies a desire for self-evaluation (1954). People are motivated to maintain an accurate understanding of their own personal talents, status, and abilities to perform appropriately in social contexts. People form these evaluations using the perceived opinions and performances of similar others. Similar others are more likely to have similar levels of talent or ability and make for a more accurate comparison than distinctly different others (Whittemore, 1925). When only divergent others are available for comparison, individuals tend not to engage in social comparison (Hoppe, 1930).

People also use social comparison as a tool to enhance self-esteem and identity (Hogg & Mullin, 1999). Individuals perform upward and downward comparisons with similar others who are slightly better or slightly worse, respectively (Thornton & Arrowood, 1966; Wills, 1981,1991). Upward comparisons allow people to evaluate their personal standing and identify if they need to improve in a certain domain; downward comparisons allow individuals to improve self-esteem. Upward comparisons have the potential to threaten one's self-esteem, as individuals compare themselves to more successful others.

Social comparisons also occur within intergroup settings. Because individuals base self-esteem and self-identity in part from their important social identities, they desire that their ingroup is better than relevant outgroups (Turner, 1975). This often takes the form of attempting to be both better than and distinct from relevant outgroups. People desire their ingroup to be distinct from outgroups to positively differentiate their ingroup (Brewer, 2001, 2003; Turner, J. C., Brown, R. J., & Tajfel, H., 1979). For this to occur, individuals must have accepted their group as a part of their identity and agree with the group's position in intergroup contexts. By positively differentiating their group from relevant and competitive outgroups, individuals benefit their self-concept standing in society (Tajfel, 1972).

When a member of the group succeeds, other members tend to feel positively about themselves and other members of the group (Cialdini et al., 1976). However, this only tends to occur when the performance of close others occurs in a non-important

domain. When other members' performances occur in an important domain, social comparison tends to occur (Tesser, Millar, & Moore, 1988).

Social comparison allows people to "check-in" to ensure that their beliefs and behaviors match that of a social group. When there is a difference between the qualities of an individual and that of their group, individuals tend to feel uncertain about their identity (Hogg, 2009).

Uncertainty-identity. When people feel that they carry beliefs or qualities that differ from the norms of the group and the group prototype, they tend to feel uncertain about themselves and their place within society (Hogg, 2009). When people feel self-uncertain, they are motivated to join and/or identify with a group to reduce uncertainty about identity including beliefs, values, and behaviors (Jung, Hogg, & Choi, 2016; Hogg & Adelman, 2013). The uncertainty-identity approach is based on the assertion that uncertainty about one's identity (including capabilities, attitudes, and beliefs) is often a non-desired state which one will seek to resolve given adequate resources (Hogg et al., 2007). Self-categorization is one such resource for reducing uncertainty through group identification.

Uncertainty motivates people to join and identify with groups to establish an identity and reduce feelings of uncertainty. People who feel uncertain about their identities often join groups to receive instruction about how to think, act, and feel (Hogg, 2009). Groups provide individuals with access to similar others, who provide reference for individuals to base their behavior and beliefs. Grant and Hogg found that uncertainty drives people to identify with self-inclusive groups rather than groups that may be more

difficult to join (2012). People tend to join more inclusive groups when they feel uncertain about themselves because joining a group provides individuals with clear rules and guidelines for group membership. These rules and guidelines allow people to form and elaborate on their personal identity through their group membership. Structured and cohesive groups, or highly entitative groups, are desirable because they reduce uncertainty by informing members about who they are and how they should perform in a given situation (Hogg et al., 2007). Highly entitative groups are predictable and have clearly constructed boundaries and group norms. Members of highly entitative groups have a clear definition of who is considered a group member and how they and other group members are expected to behave (Hamilton & Sherman, 1996; Rydell & McConnell, 2005). Knowing expectations of behavior allows a member to predict future actions and beliefs of other group members, allowing for a reduction of uncertainty (Hogg, 2009).

Intragroup Dynamics

Individuals are motivated to join groups to reduce uncertainty and seek out groups that they believe will aid them in satisfying their own personal needs. Similarly, groups recruit new members to help the group achieve desired goals (Moreland & Levine, 1989). For example, groups who aim to increase their status and perceived attractiveness may recruit physically attractive individuals who have high status.

Groups and new members must negotiate to produce a satisfactory level of assimilation and accommodation. Groups seek to change the new members so they may

contribute more to the group's achievement (assimilation); at the same time, new members attempt to alter the group so that the group fits their needs (accommodation). Moreland and Levine describe this process as socialization (1989). Following socialization, the individual and the group collectively transition into the process of maintenance. The maintenance stage includes negotiations of roles and duties in an attempt to maximize the benefits of both the individual and the group. If successful, commitment between the group and the individual remains high and the individual becomes a full member within the group. If the commitment is not high, the individual becomes a marginal member. The group tries to re-socialize the individual to the status of full membership; however, if unsuccessful, the individual exits the group. Because socialization and resocialization are stressful times for the group and the individual, so both parties seek to end the unstable time, either by upgrading the individual to full membership or exit the individual from the group (Moreland & Levine, 1989).

Newcomer traits. Some individuals tend to be more easily accepted into groups than others. Age plays a role, as younger members are more easily assimilated into groups than older members. Moreland and Levine (1989) hypothesize that this trend occurs because groups composed of younger members are less developed, tend to demand less assimilation and are more likely to accommodate the needs of new members. For gender, previous work outlines two opposing perspectives; Ziller, Behringer, and Jansen's (1961) research suggests that women have an easier time socializing in new groups, whereas other lines of research suggest that men have an easier time. There is evidence that both sides are valid: female groups may be more likely to accommodate

new women members whereas men are more likely to request their own accommodation when joining a group (Eagly, 1978; Eagly & Steffen, 1986; Eisenberg & Lennon, 1983; Hall, 1978; Moreland & Levine, 1989). Status also plays a role in the socialization of new members. Those who have a higher status coming into the group tend to be socialized more easily than other individuals. Higher status individuals may have already gained the skills necessary to succeed in being a successful newcomer. In addition, simply the perception of high status enables individuals to socialize successfully; old-timers tend to treat newcomers better when the newcomers seem to be of high external status (Moreland & Levine, 1989). Physically attractive individuals are often thought of as high in status (Webster & Driskell, 1983).

Certain personality traits can also help newcomers to be successful in socializing into a new group. High self-esteem and motivation can help an individual through the stressful process of assimilation and may also help them to advocate for their own accommodation. In addition, autonomous and flexible new comers tend to be integrated more easily. Adaptable new comers are more capable of adjusting to the group and the group's norms, which makes assimilation more manageable (Moreland & Levine, 1989). *Mean Girls* protagonist, Cady had a childhood that involved moving and adjusting to unfamiliar people and places. Cady's experience of socialization with new groups may have aided her initiation with social groups, such as "The Plastics" (Michaels & Waters, 2004).

In addition to experience, knowledge about a group and its goals will also aid a newcomer's socialization. Experience can come from past experiences in similar groups

or from close others who have had experience in the group. Knowledge may also be obtained from a current group member through a sponsorship (Moreland & Levine, 1989). In *Mean Girls*, Regina chose to sponsor Cady and teach her the rules of the group; for example, wearing pink on Wednesdays (Michaels & Waters, 2004). Regina's sponsorship helped Cady to become easily accepted by the other members of the group and progress to a full membership. Regina also represented the group's prototype, so Cady, along with the other group members looked to her for information on how to look, behave, act, and think. Regina's position as group leader made her endorsement of Cady the prototypical position, which prompted the other group members to also accept Cady into the group.

A large part of a newcomer's assimilation into the group rests on her or his ability to play the part of a newcomer. Newcomers who are more anxious and passive than their old-timer counterparts tend to have better reception into the group (Moreland & Levine, 1989). Newcomers should also be more dependent on old-timers. Playing the part of a newcomer allows the individual to conform to the group's norms and rules; expediting the socialization process. The process is also aided by the presence of patrons--old time members who help newcomers to become full members by teaching them the rules of the group. Patrons can help to facilitate socialization by lowering the requirements of both sides; for example, lowering the group's entrance criteria to make it easier for the newcomer's assimilation (Moreland & Levine, 1989).

Group traits. Characteristics of the group also affect how easily the group accepts the newcomer and how well the newcomer assimilates to the group. The addition

of a new member changes a group's structure and may alter member relationships. To counter the threat of change in the structure and development of a group, highly developed groups may be less likely to accommodate a newcomer and instead insist that the newcomer assimilates (Moreland & Levine, 1989). A group's level of development consists of members' relationships with each other and the group's collective experiences over time. Research has demonstrated that less developed groups are more open to socializing newcomers (Katz, 1982; Merei, 1949, 1971; Moreland & Levine, 1989; Ziller et al., 1961).

Groups with lower levels of success in relevant domains are also more open to newcomers entering the group. Such groups tend to require less assimilation of the newcomers and allow for more accommodation. However, even if successful, understaffed groups tend to eagerly accept newcomers because their need for members overshadows the need for specific selection of newcomers (Moreland & Levine, 1989).

Peripheral membership. In some cases, the addition of a newcomer may cause stress for current members of the group. When a group member feels peripheral (not prototypical), they likely feel uncertain of their group membership and thus identity (Hohman, Gaffney, & Hogg, 2017). When people feel uncertain about their position and role within the group, they tend to question how the addition of the newcomer will affect their own standing (Gallagher & Sias, 2009). The individual may perceive the newcomer as threatening if he or she is concerned about the newcomer's skills or status and how the addition of the newcomer will affect their level of prototypicality within the group.

Physical Attractiveness

Physical attractiveness as status. Individuals strive to gain status in the social groups that they care about (Anderson, John, Keltner, & Kring, 2001). Webster and Driskell (1983) propose that physical attractiveness is often perceived as status; specifically, that society is structured in such a way to emphasize the importance of beauty as an element of status. Even simply being associated with a physically attractive person can boost one's status in social contexts (Sigall & Landy, 1973). The status associated with physical attractiveness may also be perceived as threatening. Hazlett and Hoehn-Saric (2000) found that female participants demonstrated a threat or defensive facial muscle display when exposed to pictures of physically attractive women. The researchers attributed the displays to exposure to a higher status competitor, prompting social comparison within the participants. However, physical attractiveness is not always perceived as a threat. In many cases, people attribute positive qualities to attractive individuals.

Benefits of physical attractiveness. Generally, people perceive attractive others as possessing positive qualities. One hypothesis explains this as a possible correlation between good personality traits that reflect on the face/body in the form of physical changes (Dion, Berscheid, & Walster, 1972). Alternatively, this correlation between positive qualities and physical attractiveness may exist because attractive people are treated better because of established stereotypes. In turn, the nature of the self-fulfilling prophecy tends to beneficially influence personality qualities in attractive people, confirming the stereotype (Snyder, Tanke, & Berscheid, 1977).

In addition to such inferences, attractive people often tend to receive special treatment; for example, relief from punishment when they have been caught freeloading. Research has demonstrated that participants are more likely to "forgive" attractive players for free-riding in a cooperation game than unattractive players (Putz, Palotai, Csertõ, & Bereczkei, 2016). Putz and colleagues termed the phenomenon a "beauty priority", as participants gave more rewards to attractive cooperative players and less punishment to attractive free-riding players (Putz et al., 2016). "Beauty priority" falls under the umbrella of the halo effect, attractive people are generally seen as possessing more positive qualities and tend to be rated or treated well as a result (see Thorndike, 1920).

Physical attractiveness as threat. To gather information and make predictions, people often turn to heuristics to evaluate others. Physical characteristics such as height, gender, ethnicity, and beauty tend to be noticed in first time social encounters, and thus contribute to heuristic evaluations (see Agthe, Spörrle, & Maner, 2010). As discussed previously, people tend to treat physically attractive individuals more positively within social contexts and give better opportunities to physically attractive individuals than unattractive individuals. However, physically attractive individuals may not always have the upper hand in social situations.

In certain situations, physical attractiveness may be perceived as a threatening trait rather than a positive trait. In written statements, women tended to seek out faults in physically attractive women, possibly because the other women threatened their own self-esteem about their own physical attractiveness (Joseph, 1985).

Social comparison theory suggests that individuals compare themselves to similar others in relevant domains to gain a clear understanding of where they stand within society and if they need to improve within a certain domain (Festinger, 1954). If physical attractiveness the salient domain of comparison, individuals may evaluate themselves against relevant others within the domain of physical attractiveness. If a relevant other is perceived to be higher or more competitive in a certain domain, individuals may perform upward comparison and feel unsure about their own performance within the domain (Thornton & Arrowood, 1966; Wills, 1981, 1991).

To better understand social comparison within the domain of physical attractiveness, Agthe and colleagues investigated the potential threat of highly attractive, same-sex individuals for individuals of varying levels of perceived self-attractiveness (Agthe et al., 2010). Researchers randomly assigned 622 participants to each condition within a 2 (participant sex) x 2 (target sex) x 2 (participant attractiveness) x 2 (target attractiveness) between groups factorial design. Participants rated attractive or unattractive targets on ability to fill a job position. Results indicated that women rated highly attractive women less positively than moderately attractive women, but rated highly attractive men more positively than moderately attractive men. Similarly, men rated highly attractive men less positively than moderately attractive men, but rated highly attractive women more positively than moderately attractive women. Analyses indicated no significant effects of participant attractiveness on the ratings of the targets, a result that is in line with previous research of highly attractive individual's perceptions of same-sex targets (Agthe et al., 2010). Highly attractive individuals may not feel as

threatened by other attractive individuals and may show little or no rating preference for attractive or unattractive same-sex others (Buunk, Massar, & Dijkstra, 2007). Highly attractive individuals may not have felt threatened by attractive similar others and may not have performed upward comparisons.

Disadvantages of physical attractiveness. Whereas physically attractive people tend to enjoy wealth of benefits that their less attractive counterparts do not share (e.g., the halo effect, power, status, lowered punishment (Putz et al., 2016; Thorndike, 1920), in some circumstances, being physically attractive can actually be a source of *disadvantage*. Sigall and Ostrove (1975) found results that contrasted Putz's beauty priority (i.e., freeloading forgiveness). One hundred and twenty male and female undergraduates were asked to evaluate one of two criminal cases; either a burglary or a swindle. Participants assigned punishment to the suspect, who was attractive, unattractive, or an unknown level of attractiveness. Results demonstrated that participants assigned more punishment to an attractive suspect, but only when they believed that the crime was somewhat dependent on the criminal's level of physical attractiveness (swindling). In the burglary condition, participants assigned more punishment to unattractive participants than to attractive participants. The results are consistent with the supposition that attractive people are generally better at certain tasks that involve distraction and intelligence such as swindling (Webster & Driskell, 1983). This assertion upholds the stereotypical belief that attractive people possess generally positive qualities, such as intelligence.

Physically attractive people may also be at a disadvantage for leadership within small groups contexts. A study by Archer and colleagues examined three small groups

composed of roughly 13 individuals met 36 times over the course of 14 weeks (1973). Ten raters observed and apprised each member of the group on dimensions of physical attractiveness. Both the raters and the members of the groups reported on the perceived dominance, power, and leadership of each member of the group. Researchers found a significant negative relationship between physical attractiveness and measures of dominance, power, and leadership. Participants were less likely to promote a physically attractive group member to a position of leadership because they perceived the physically attractive member as low in the leadership relevant traits dominance and power. The relationship was more apparent for women group members (Archer, 1973). The study demonstrates potential disadvantages of physical attractiveness; however, does not address same-sex perceptions of physically attractive group members. Disadvantages of physical attractiveness within the context of small groups is often not addressed in the field of social psychology.

Statement of Problem

This experiment focuses on an area not heavily researched in social psychology—physical attractiveness and intragroup dynamics. In addition to height, ethnicity, and gender, physical attractiveness is often one of the first visually observed characteristics of an individual. First impressions matter; physical or otherwise. First impressions provide us with details that we can use to categorize individuals and predict their behavior. Such details also help us to decide whom to let into a social group and whom to keep out. Newcomers who possess traits that pose a threat to members of the ingroup will likely have a more difficult time entering the group (Moreland & Levine, 1989). Old-timers tend to wonder how the addition of the newcomer within the group will affect their standing and role within the group (Gallagher & Sias, 2009). Old-timers who are already uncertain about their place within the group will likely feel even more concerned about the addition of a newcomer; especially if the newcomer possesses a trait that rivals that of the old-timer.

To further understand this scenario and the resulting perceptions of the newcomer from the point of the old-timer, the study manipulated participants' perception of self-prototypicality within a group, as well as the level of physical attractiveness of either a newcomer or an old-timer within the group. Participants rated the other group member on perceptions of warmth and competence, distance, threat to the participant's position within the group, and the participant's likelihood to derogate or promote the member to leadership. The experiment aimed to garner greater understanding of group perceptions of a newcomer based on physical qualities; specifically, beauty. The results from the

experiment aim to contribute to the field of small group dynamics, as little research has looked into the negative reception of physically attractive individuals in small groups settings. This work strives to promote an understanding for the assimilation and accommodation within same-gender small groups when physical attractiveness may be a threat. The research attempts to shed light on why some newcomers are more easily accepted than others and what can be done to create more effective socialization techniques. Society, culture, and identity rely on effective methods of socialization. Our identities are built from the groups that we identify and interact with, and such groups allow us to face the daily struggles in life.

Hypotheses

Hypothesis 1: Uncertainty

Hypothesis 1a. Participants exposed to attractive individuals will experience more self-uncertainty than participants exposed to unattractive individuals.

Hypothesis 1b. Participants exposed to newcomers will experience more self-uncertainty than participants exposed to old-timers.

Hypothesis 1c. Participants who are made to feel peripheral will experience more self-uncertainty than participants who are made to feel prototypical.

Hypothesis 1d. Participants in the peripheral condition will feel more self-uncertainty when exposed to attractive newcomers than unattractive newcomers, and when compared to participants in the prototypicality condition exposed to oldtimers or unattractive newcomers.

Rationale. Exposure to an attractive individual may prompt upward social comparison within the participant. Unlike downward social comparison, upward comparison does not add to self-esteem and may contribute feelings of inadequacy and self-uncertainty (Hogg & Adelman, 2013; Thornton & Arrowood, 1966; Wills, 1981,1991). The addition of a newcomer to a group may prompt feelings of uncertainty as group members strive to maintain their standing within the group (Moreland & Levine, 1989).

Hypothesis 2: Distance

Hypothesis 2a. Participants will feel more distant from the target in the newcomer condition than other members of the group or the target in the old-timer condition.

Hypothesis 2b. Participants will feel more distant from all members of the group when in the peripheral condition than in the prototypical condition.

Hypothesis 2c. Participants in the peripheral condition will feel further from attractive newcomers than unattractive newcomers, and when compared to participants in the prototypicality condition exposed to oldtimers or unattractive newcomers.

Rationale. Participants who feel peripheral will feel more distant from other members of the group because of the prototypicality prime. In addition, participants will feel more distant from newcomers than old-timers because of the perceived lack of shared experience (Moreland & Levine, 1989).

Hypothesis 3: Leadership

Hypothesis 3a. Participants will be more likely to promote attractive individuals to leadership than unattractive individuals.

Hypothesis 3b. Participants will be more likely to promote old-timers to leadership than newcomers.

Hypothesis 3c. Participants in the peripheral condition will be less likely to promote attractive newcomers to leadership than unattractive newcomers, and

when compared to participants in the prototypical condition exposed to old-timers or unattractive newcomers.

Rationale. Attractive individuals are more likely to be perceived of having good qualities than bad qualities and people tend to promote attractive individuals rather than derogate them (Putz et al., 2016). However, peripheral participants may be more inclined to promote an unattractive old-timer than an attractive newcomer and more likely to derogate the attractive newcomer (Bobadilla, Metze, & Taylor, 2013).

Hypothesis 4: Member removal

Hypothesis 4a. Participants will be more likely to remove unattractive individuals from the group than attractive individuals.

Hypothesis 4b. Participants will be more likely to remove newcomers than old-timers.

Hypothesis 4c. Participants in the peripheral condition will be more likely to remove attractive newcomers than unattractive newcomers, and when compared to participants in the prototypicality condition exposed to old-timers or unattractive newcomers.

Rationale. Putz et al. demonstrated that individuals tend to give more rewards and more chances to attractive individuals than to their unattractive counterparts (2016). However, through upward social comparison and small group processes, participants may feel threat by the attractive newcomer target and may seek to

derogate, or remove the target. Women tend to derogate other women in competitive situations more often than men (Bobadilla et al., 2013).

Hypothesis 5: Warmth and Competence

Hypothesis 5a. Participants will rate attractive individuals higher in warmth and competence than unattractive individuals.

Hypothesis 5b. Participants will rate an old-timer higher in warmth and competence than a newcomer.

Hypothesis 5c. Participants in the peripheral condition will rate attractive newcomers lower in warmth and higher in competence than unattractive newcomers, and when compared to participants in the prototypicality condition exposed to old-timers or unattractive newcomers.

Rationale. Fiske and colleagues demonstrated that people tend to perceive individuals that are viewed as threatening and competitive as low in warmth and high in competence (2002). Attractive newcomers may be perceived as competitive because they pose a threat to the participant's status within the group.

Methods

Participants and Design

Two hundred and forty seven female participants (M_{age} = 39.58, *SD* = 11.903; 73.7% White, 8.9% African American, 6.9% Asian American, 5.7% Hispanic or Latino American, 2.0% Asian Indian American, 1.2% Native American, 0.4% Native Hawaiian or Pacific Islander, 1.2% other) were recruited through Amazon Mechanical Turk Prime and directed to the study hosted on Qualtrics (institutional review board number: 17-125). Amazon Mechanical Turk is an online service provided by Amazon that allows researchers to post surveys or tasks with a monetary reward. The service reaches a large online audience and may be limited to certain populations. Qualtrics is an online service for administering surveys and storing data. The study was only available to American women. Participants were compensated $0.45 for their participation which took roughly 30 minutes.

Participants were randomly assigned to all experimental conditions in a factorial design, thus this experiment was a 2 (self-prototypicality: prototypical vs. peripheral) x 2 (target status: newcomer vs. old-timer) x 2 (target attractiveness: attractive vs. non-attractive) experimental design. Some scales (e.g., warmth and competence) are used in the same analyses, thus in these cases, the data becomes a mixed-design.

Quality of data was ensured through participants completing various comprehension checks throughout the survey. For example, participants reported a code

word after completing the game manipulation. Participants who failed comprehension checks were removed from analyses.

Procedure

After obtaining informed consent (Appendix A), Qualtrics directed participants to a short bogus personality survey designed to make the participant feel either prototypical or peripheral. Participants were then placed in a group with two or three other "participants" and directed to play "Speedy Ball", a game programmed by colleague Nate Spence and hosted on itch.io (may be found at: ns31.itch.io/sb-01-ot). Spence's Speedy Ball is a semi-difficult coordination game in which participants work together with "team members" (which are actually simulations) to earn points (see Appendices H-L). After learning the ropes of the game, participants completed three practice rounds with their team before progressing on to three "recorded" rounds. In the old-timer condition, all three other players were present throughout the practice rounds and the recorded rounds. In the newcomer condition, a new player joined the team after the practice rounds but before the recorded rounds (Appendix I). This new player, or target member, was either physically attractive or unattractive.

Throughout the game, all other players' scores were random and averaged around the participants' Speedy Ball scores; so that participants would be less likely to rate group members on performance (no player was consistently superior or inferior). At the end of the game, participants were given a code word as proof of their participation and directed back to the survey on Qualtrics (Appendix L).

Participants were asked to rate each team member in terms of warmth, competence, and how much they include each member as a part of the self, or their social distance from each member. Each member's profile picture was present while participants rated each member on warmth, competence, and distance. The order of each member's rating was randomized. Participants were also asked to promote one team member to a leadership position and to recommend one team member to be removed from the group. Finally, participants were asked to complete questions about themselves concerning group identity, self-uncertainty, uncertainty, perceptions of self-attractiveness, ethnicity, age, and gender.

Independent Variables

Self-prototypicality. Participants completed a short 10 item personality survey (Appendix B). Bogus feedback informed participants that their personality was "open" or "moral", and similar to or different from that of their teammates, prompting them to feel prototypical or peripheral within the group (Hohman et al., 2017). Participants in the "newcomer" condition saw a figure comparing them to two other players, rather than three other players as in the "old-timer" condition, in order to further establish the status of the newcomer target (Appendix E). The effectiveness of the manipulation was checked by asking participants to report their belief of the effectiveness of the personality test with the following two prompts: "Please indicate the degree to which the personality description reveals basic characteristics of your personality", and "Please indicate how effective the personality test is in revealing your personality", on 7-point scales (ranging

from 1 = *not at all like me*, to 7 = *just like me*, and 1 =*very ineffective*, to 7 = *very effective*, respectively) (Appendix D). In general, participants believed the personality description to be fairly accurate and believed the test to be revealing in personality, as indicated by their average scores (M = 5.36, SD = 1.32; M = 5.12, SD = 1.40). To ensure comprehension of their personality as compared to their teammates, participants completed the following question: *according to the feedback we just gave you, how similar is your personality type to your teammates' personalities?*, on a 7-point scale ranging from 1 (*very dissimilar*) to 7 (*very similar*) (Appendix F). The manipulation was effective, as participants in the peripheral condition (M = 1.95. SD = 1.03) differed significantly from the prototypical condition (M = 5.75. SD = 0.85), t(245) = -31.64, p < .001, d = 4.02.

Target status. The target group member was either a newcomer to the group or an old-timer to the group. In the newcomer condition, the target member joined the group after the series of group practice rounds. In the old-timer condition, the target member will exist within the group from the beginning of the game.

Target attractiveness. The target member will be either more or less attractive in their profile picture than the other two, moderately attractive group members. Group member profiles consisted of a picture and a four digit number (either 2803 or 2766). Participants were informed that they will have the opportunity to create their own profile after completing the game, to justify the lack of a profile creation. The member profile pictures were obtained from the Chicago Face Database to ensure that participants perceived the target faces to be highly attractive, moderately attractive, and unattractive

(see Appendices J, L, and P). Each profile picture obtained from the database had been previously rated by 80-100 individual raters.

Dependent Measures

Warmth and competence. Fiske, Cuddy, Glick, and Xu demonstrated how perceptions of warmth and competence influence the content of the stereotypes we hold of individuals and groups (2002). Participants were asked to rate their agreement to 9 statements about their perceptions of each group member's levels of competence and warmth (Appendix N). For example, *how good natured is the group member?*, *how competent is the group member?*, and *how sincere is the group member?* The questions from the Competence and Warmth Scales are 7-point scales ranging from 1 (*strongly disagree*), to 7 (*strongly agree*) (Fiske et al., 2002). The 4 warmth statements were highly reliable (α =.93), as were the 5 competence statements (α = .92).

Distance. Perceived distance from the target group member and the other group members was assessed using the Inclusion of the Self and the Other Scale (Aron, Aron, & Smollan, 1992). The one item scale included 7 options of circles that represent the self and the other that range from no overlap to considerable overlap (Appendix O). Participants were asked to rate how close they felt to the other three group members by choosing a set of circles.

Leadership. Participants were asked to promote one member to be group leader, and told that group leaders had the power to pick rival teams and remove members from the group (Appendix P).

Participants were then asked to rate their agreement to 5 statements concerning their selected leader such as, *I think this member would be an effective leader*, and *I think that this leader will represent the interests of the group*, adapted from the leader support scale with 7- point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) (Rast, Gaffney, Hogg, & Crisp, 2012) (Appendix Q). The scale was found to be reliable in use within this experiment ($\alpha = .93$).

Member removal and derogation. Participants were told that Speedy Ball teams could only consist of three players, and were asked to vote to remove one member from the group (Appendix R). Participants were asked to rate their agreement to 9 statements concerning their member selection, such as, *this group member is cold*, and, *this group member is considerate*, (reverse coded). The statements are adapted from Ditrich, Scholl, and Sassenberg (2017), with 7-point scales ranging from 1 (*not at all*) to 7 (*extremely*). Participants were also asked to rate their agreement to the following statement: *I wish to be in a group with this member in the future*, on a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*) (Ditrich & Sassenberg, 2016) (Appendix S). The derogation scale was found to be reliable ($\alpha = .92$).

Group identification. Participants were asked to rate their agreement to 8 statements, such as, *I represent what is characteristic of this Speedy Ball team*, to identify their level of group identification (Appendix T). The questions, adapted from Hogg and Hains (1996), Hains, Hogg, and Duck (1997), and Hogg, Hains, and Mason (1998) were 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale was found to be reliable ($\alpha = .90$).

Self-uncertainty. Participants rated their level of self-uncertainty with a 12 item scale of self-conceptual uncertainty adapted from Hohman and Hogg (2015). The measure was originally adapted from the self-concept clarity scale (Campbell, 1990; Campbell, et al., 1996). Participants will be instructed to rate their agreement to statements such as, *my beliefs about myself often conflict with each other*, and, *in general, I have a clear sense of who I am and what I am*, on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) (Appendix U). The scale was found to be highly reliable ($\alpha = .92$).

Uncertainty. Participants were asked to rate their uncertainty (Appendix V) with an adapted 5 item uncertainty scale (Rast et al., 2012; Gaffney et al., 2014). Participants read statements such as, *at this very moment, I feel uncertain about myself*, and were asked to rate their agreement on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The uncertainty scale was found to be reliable ($\alpha = .91$)

Perceptions of self-attractiveness. Participants were asked to rate their agreement to 3 statements about their self-perceived physical attractiveness (Appendix W). The statements: *I think I am physically attractive*, *I think I have a lot of physically attractive qualities*, and *in general, I see myself as a physically attractive individual*, were 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) (Belmi & Neale, 2014). The scale was found to be highly reliable ($\alpha = .96$).

Debriefing

Participants were debriefed and compensated for their time and participation at the end of the final surveys. Participants were asked if they would like for their results to be used or disposed of (Appendix Y).

Data Storage

Data were stored on Qualtrics, Dropbox, and a private server. All storage was password protected and only accessible to the principal investigator and faculty supervisor.

Results

Primary Analyses

Data were tested using the statistical software, SPSS, to run factorial analyses of variance (ANOVA), mixed design ANOVAs, and multivariate analyses of variance (MANOVA). ANOVAs and MANOVAs were conducted to test for main effects, one-way, two-way, and three-way interactions. Frequency tables and Chi square analyses were used to test member selection for leadership and removal from the group.

Participants who did not pass the manipulation checks or wished not to have their data used were removed and not included in analyses.

Tests of Assumptions

Normality of data. Normality of data was tested using histograms as well as skew and kurtosis tests. The variables for closeness to the target (distance) and the other "players" were found to be positively skewed. These variables were transformed using an inverse transformation. For closeness to the target and closeness to the other players, all analyses were found to be nonsignificant, and matched the untransformed data in terms of significance and trend.

Homogeneity of variance. Homogeneity of variance was tested by examining Levene's test for each Analysis of Variance (ANOVA). There were no significant violations of the assumption. Sphericity was examined with Mauchly's test sphericity for each Multiple Analysis of Variance (MANOVA). There was a violation of the sphericity

assumption for the distance variables, which was adjusted for using the Huynh-Feldt correction.

Hypothesis Tests

Hypothesis 1: Uncertainty. A 2(target attractiveness) x 2 (target status) x 2 (participant prototypicality) factorial Analysis of Variance (ANOVA) assessed Hypotheses 1a, 1b, and 1c (self-uncertainty). Results indicate that there were no main effects of the independent variables on self-uncertainty, $F(1, 239) < .001$, $p = .99$, $\eta_p^2 = .00$; $F(1, 239) = .81$, $p = .37$, $\eta_p^2 = .00$; $F(1, 239) = .03$, $p = .87$, $\eta_p^2 = .00$, respectively. Moreover, Hypothesis 1d predicted a three-way interaction between the independent variables on self-uncertainty. However, the results did not support the hypothesis, $F(1, 239) = 0.94$, $p = .33$, $\eta_p^2 = .00$.

Hypothesis 1 analyses also tested the other measure of uncertainty (labeled 'uncertainty') with a factorial ANOVA. There were no main effects for target attractiveness $F(1, 239) = 0.86$, $p = .36$, $\eta p^2 = .00$; target status, $F(1, 239) = 1.32$, $p = .25$, $\eta_p^2 = .01$; or participant prototypicality, $F(1, 239) = 0.33$, $p = .57$, $\eta p^2 = .00$. There was no significant three way interaction (Hypothesis 1d) between target attractiveness, target status, and participant prototypicality for uncertainty, $F(1, 239) = 2.26$, $p = .13$, $\eta_p^2 = .01$. Participants did not significantly differ in self-uncertainty or uncertainty when exposed to an attractive or unattractive, newcomer or old-timer target, and when made to feel prototypical or peripheral. Descriptive statistics are present in Tables 10 and 11, and ANOVA analyses presented in Tables 1 and 2.

Table 1

ANOVA Analysis of Self-uncertainty and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	0.000	.000	.989
Status	0.806	.003	.370
Prototypicality	0.027	.000	.870
Attractiveness x Status	1.411	.006	.236
Attractiveness x Prototypicality	0.004	.000	.948
Status x Prototypicality	0.055	.000	.860
Attractivness x Prototypicality x Status	0.940	.004	.333

Note. All effects have 1, 239 degrees of freedom.

Table 2

ANOVA Analysis of Uncertainty and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	0.857	.004	.355
Status	1.320	.005	.252
Prototypicality	0.331	.001	.566
Attractiveness x Status	2.051	.009	.153
Attractiveness x Prototypicality	0.104	.000	.748
Status x Prototypicality	0.696	.003	.405
Attractiveness x Prototypicality x Status	2.260	.009	.134

Note. All effects have 1, 239 degrees of freedom.

Hypothesis 2: Distance. Hypothesis 2a predicted that participants would perceive more distance between themselves and a newcomer target than an old-timer target or other members of the group. A one-way ANOVA was conducted to test for differences in distance between the newcomer target and the old-timer target. There was no evidence for a significant difference in reported distance for participants who encountered a newcomer target and participants who interacted with the old-timer target, $F(1, 245) = 0.08$, $p = .78$, $\eta p^2 = .00$.

A 2(target attractiveness) x 2 (target status) x 2 (participant prototypicality) MANOVA also addressed Hypothesis 2a, as well as 2b, and 2c, with reported distance from the target and other group members as the dependent variables. The analysis used inversely transformed data and had to be adjusted for a violation of sphericity using the Huynh-Feldt correction. Hypothesis 2a was not supported, as there was no evidence that participants felt more distant from the newcomer target than all other members of the group, $F(2, 238) = 2.51$, $p = .08$, $\eta_p^2 = .02$. There was no evidence that peripheral participants felt more distant from all members of the group than prototypical participants (Hypothesis 2b), $F(2, 238) = 0.06$, $p = .94$, $\eta p^2 = .00$. Hypothesis 2c predicted that participants would report greater distance from the attractive newcomer target than the unattractive newcomer target, old-timer targets, or any other group members. The results did not support the hypothesis, $F(2, 238) = 0.25$, $p = .73$, $\eta p^2 = .00$. The MANOVA analysis is presented in Table 3.

Table 3

MANOVA Analysis of Distance (Transformed) and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	2.844	.023	.060
Status	2.512	.021	.083
Prototypicality	0.059	.000	.943
Attractiveness x Status	1.811	.015	.166
Attractiveness x Prototypicality	0.140	.001	.869
Status x Prototypicality	1.945	.016	.145
Attractiveness x Prototypicality x Status	0.023	.000	.977

Note. All effects have 2, 238 degrees of freedom.

Hypothesis 3: Leadership. Frequencies and Chi square analyses were used to test Hypothesis 3a, 3b, and 3c. Hypothesis 3a was supported, as participants promoted attractive individuals to leadership more than unattractive individuals, χ^2 (1, N = 138) = 5.03, p = .019, Cramer's V = .03. Furthermore, participants in the prototypical condition promoted the attractive targets to leadership more than the other members of the group, χ^2 (1, N = 71) = 5.81, p = .016, Cramer's V = .02. However, this finding did not extend to participants in the peripheral condition, χ^2 (1, N = 67) = 0.36, p = .36, Cramer's V = .55. There was not sufficient evidence to support Hypothesis 3b, although the frequency table (Table 4) seems to reflect a trend for promoting old-timers to leadership over newcomers, for the participants in the prototypical condition. Lastly, there was insufficient evidence to support Hypothesis 3c; both in terms of significance tests and trends in frequencies.

Table 4

Target Selection Frequencies for Leadership

		Attractive Target		Unattractive Target	
		Newcomer	Old-Timer	Newcomer	Old-Timer
Prototypical	Target Selected	22%	50%	18.5%	10.7%
	Target not Selected	78%	50%	81.5%	89.3%
		Attractive Target		Unattractive Target	
		Newcomer	Old-Timer	Newcomer	Old-Timer
Peripheral	Target Selected	41.2%	48.5%	11.1%	7.4%
	Target not Selected	58.8%	51.5%	88.9%	92.6%

Hypothesis 4: Member Removal. Frequency and Chi square analysis were used to assess Hypotheses 4a, 4b, and 4c. Hypothesis 4a predicted that participants would be more likely to remove the unattractive target more frequently than the attractive target. The Chi square analysis supported the hypothesis: overall, participants removed the unattractive target more than the attractive target, χ^2 (1, N = 109) = 5.79, p = .021, Cramer's V = .02. However, for attractive target removal, participants in the prototypicality condition removed the newcomer attractive target more than the old-timer attractive target, χ^2 (1, N = 71) = 3.97, p = .040, Cramer's V = .24. As demonstrated in the frequency table below (Table 5) this trend extends to participants in the peripheral condition, however the result is not statistically significant, χ^2 (1, N = 67) = 1.78, p = .15, Cramer's V = .16. There is insufficient evidence to suggest a significant difference in the removal frequencies between newcomers and old-timers for the peripheral participants (Hypothesis 4c).

Table 5

Target Selection Frequencies for Member Removal

		Attractive Target		Unattractive Target	
		Newcomer	Old-Timer	Newcomer	Old-Timer
Prototypical	Target Selected	37.8%	15.5%	55.6%	53.6%
	Target not Selected	62.2%	84.5%	44.4%	46.4%
		Attractive Target		Unattractive Target	
		Newcomer	Old-Timer	Newcomer	Old-Timer
Peripheral	Target Selected	32.4%	18.2%	63%	63%
	Target not Selected	67.6%	81.8%	37%	37%

Hypothesis 5: Warmth and competence. Target attractiveness affected perceptions of warmth, $F(1, 239) = 5.63$, $p = .018$, $\eta_p^2 = .02$, suggesting that participants rated the attractive targets ($M = 5.03$, $SD = 1.03$) higher in warmth than the non-attractive targets ($M = 4.73$, $SD = 0.94$) (Hypothesis 5a). However, target attractiveness was not found to be significantly related to competence, $F(1, 239) = 0.68$, $p = .41$, $\eta p^2 = .00$, as Hypothesis 5a had also predicted.

Hypothesis 5b predicted that participants would rate an old-timer target higher in warmth and in competence than a newcomer target. A mixed ANOVA with target attractiveness, target status, and participant prototypicality as between subjects variables and warmth and competence as repeated (within subjects) variables did not find evidence for differences between the old-timer target and the newcomer target in warmth and competence, $F(1, 239) = 0.679$, $p = .41$, $\eta p^2 = .00$. The analysis also tested Hypothesis 5c – if participants in the peripheral condition would rate attractive newcomer targets lower in warmth and higher in competence than unattractive newcomers, or old-timers, and when compared to participants in the prototypicality condition. The analysis found no evidence in support of the hypothesis, $F(1, 239) = 0.57$, $p = .45$, $\eta p^2 = .00$. Relevant statistics presented below in Table 6.

Further exploration of the data using ANOVA analysis revealed a main effect of status on target warmth, $F(1, 239) = 5.63$, $p = .018$, $\eta_p^2 = .02$; as well as a significant interaction between target attractiveness and participant prototypicality for target warmth, $F(1, 239) = 3.91$, $p = .049$, $\eta_p^2 = .02$. Participants in the peripheral condition rated the attractive target ($M = 5.06$, $SD = 1.11$) higher in warmth than the unattractive target ($M =$

4.51, *SD* = 0.89), $F(1, 243) = 9.35$, $p = .002$, $\eta_p^2 = .04$ (Figure 1). There was no difference in ratings of target warmth for attractive targets (*M* = 4.99, *SD* = 0.95) and unattractive targets (*M* = 4.95, *SD* = 0.95) in the prototypical condition, $F(1, 243) = 0.06$, $p = .81$, $\eta p^2 = .00$. Results of the ANOVA analyses are presented below in Table 7, and the interaction is presented in Figure 1.

Table 6

Mixed Model ANOVA Analysis of Warmth and Competence and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	3.410	.014	.066
Status	0.679	.003	.411
Prototypicality	0.055	.000	.815
Attractiveness x Status	0.047	.000	.828
Attractiveness x Prototypicality	0.110	.000	.740
Status x Prototypicality	0.146	.001	.703
Attractiveness x Prototypicality x Status	0.568	.002	.452

Note. All effects have 1, 239 degrees of freedom.

Table 7

ANOVA Analysis of Warmth and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	5.631	.023	.018
Status	1.965	.023	.162
Prototypicality	2.213	.009	.138
Attractiveness x Status	0.169	.001	.681
Attractiveness x Prototypicality	3.906	.016	.049
Status x Prototypicality	1.459	.006	.228
Attractiveness x Prototypicality x Status	0.026	.000	.873

Note. All effects have 1, 243 degrees of freedom.

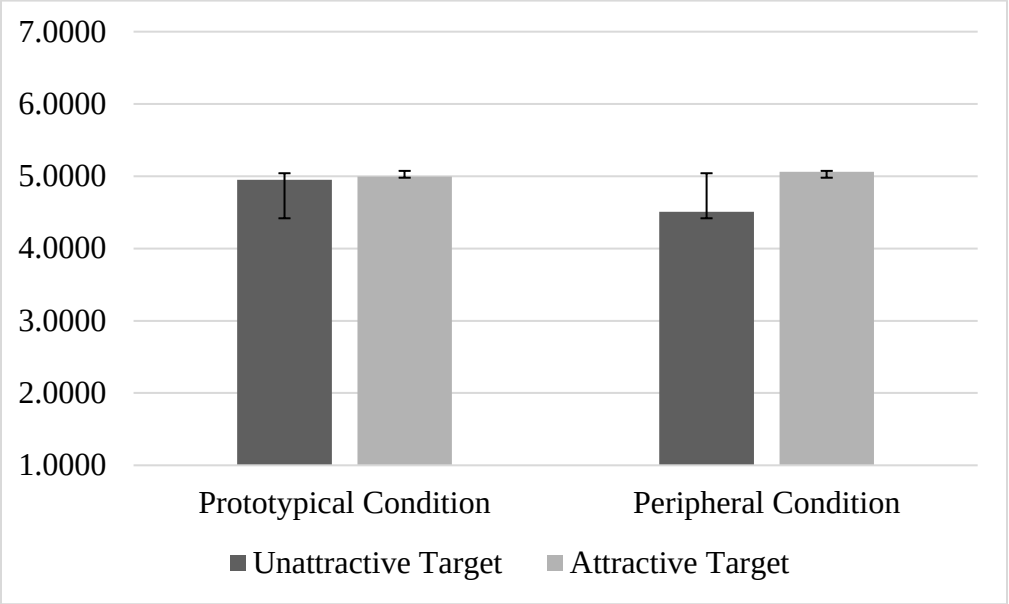


Figure 1. Estimated means of warmth ratings of the attractive target and the unattractive target by participants in the prototypical and peripheral conditions.

Exploratory Analyses

In an effort to gain further understanding, the variables of group identification and self-attractiveness were analyzed in a similar manner to previous hypotheses.

Group identification. ANOVA analyses showed no evidence that target physical attractiveness, target status, and participant prototypicality were related to participants' group identification, $F(1, 239) = 2.97$, $p = .09$, $\eta_p^2 = .01$; $F(1, 239) = 0.556$, $p = .46$, $\eta p^2 = .00$; $F(1, 239) = 0.948$, $p = .33$, $\eta p^2 = .00$; respectively. The ANOVA analysis is presented below in Table 8.

Table 8

ANOVA Analysis of Group Identification and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	2.971	.012	.086
Status	0.556	.002	.456
Prototypicality	0.948	.004	.331
Attractiveness x Status	0.028	.000	.868
Attractiveness x Prototypicality	0.483	.002	.488
Status x Prototypicality	0.309	.001	.579
Attractiveness x Prototypicality x Status	0.977	.004	.324

Note. All effects have 1, 239 degrees of freedom.

Self-attractiveness. ANOVA analyses revealed no evidence that target attractiveness and participant prototypicality affected participants' perceptions of self-attractiveness, $F(1, 239) = .25$, $p = .62$, $\eta p^2 = .00$; and $F(1, 239) = .08$, $p = .77$, $\eta p^2 = .00$, respectively. However, there was evidence that target status was significantly related to participant perceptions of self-attractiveness, $F(1, 239) = 9.91$, $p = .002$, $\eta_p^2 = .04$. Participants who encountered the newcomer target reported lower self-attractiveness ($M = 4.40$, $SD = 1.46$) than participants who interacted with the old-timer target ($M = 4.94$, $SD = 1.34$).

Table 9

ANOVA Analysis of Self-attractiveness and Target Attractiveness, Target Status, and Participant Prototypicality

Variable	*F*	η_p^2	*p*
Attractiveness	0.248	.001	.619
Status	9.910	.040	.002
Prototypicality	0.082	.000	.774
Attractiveness x Status	0.423	.002	.516
Attractiveness x Prototypicality	0.894	.004	.345
Status x Prototypicality	1.078	.004	.300
Attractiveness x Prototypicality x Status	2.575	.011	.110

Note. All effects have 1, 239 degrees of freedom.

Table 10

Descriptive Statistics for the Prototypical Participant Condition

	Newcomer						Old-timer					
	Attractive Target			Unattractive Target			Attractive Target			Unattractive Target		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Self-uncertainty	45	3.161	1.262	27	3.543	1.247	26	3.346	1.450	28	2.991	1.371
Uncertainty	45	3.539	1.773	27	3.787	1.464	26	3.106	1,750	28	3.384	1.618
Target Distance	45	2.844	1.783	27	2.185	1.111	26	2.577	1.447	28	2.000	1.610
2803 Distance	45	2.870	1.791	27	2.630	1.523	26	2.960	1.886	28	2.180	1.827
2766 Distance	45	2.840	1.678	27	2.440	1.423	26	3.080	1.917	28	2.140	1.840
Target Leader Support	10	5.250	0.905	5	5.350	0.894	13	5.846	0.893	3	6.167	1.233
2803 Leader Support	11	5.727	0.898	11	5.523	0.564	4	5.188	1.313	7	5.107	1.413
2766 Leader Support	24	5.271	0.950	11	5.614	0.918	9	5.167	0.857	18	5.569	0.812
Target Removal	17	4.271	0.650	15	4.027	0.776	4	3.375	1.601	15	4.087	0.537
2803 Removal	16	4.244	0.408	3	4.467	0.586	9	3.967	0.726	10	4.590	0.940
2766 Removal	12	4.267	0.479	9	4.378	0.363	13	4.208	0.328	3	4.167	0.153
Target Warmth	45	4.972	0.974	27	4.956	0.835	26	5.029	0.931	28	4.946	1.068
2803 Warmth	45	4.922	1.008	27	5.167	0.909	26	5.039	1.004	28	4.920	1.108
2766 Warmth	45	5.000	1.088	27	5.037	0.848	26	5.039	1.086	28	4.857	1.100
Target Competence	45	6.572	1.171	27	6.435	1.147	26	6.606	1.349	28	6.214	1.336
2803 Competence	45	5.324	1.005	27	5.267	0.841	26	5.146	1.129	28	5.036	1.083
2766 Competence	45	5.298	1.031	27	5.304	0.893	26	5.246	1.028	28	5.114	1.056

	Newcomer						Old-timer					
	Attractive Target			Unattractive Target			Attractive Target			Unattractive Target		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Group Identification	45	5.036	1.035	27	4.815	0.843	26	4.969	1.164	28	4.521	1.082
Self-attractiveness	45	4.585	1.402	27	3.914	1.683	26	4.936	1.386	28	5.083	1.099

Table 11

Descriptive Statistics for the Peripheral Participant Condition

	Newcomer						Old-timer					
	Attractive Target			Unattractive Target			Attractive Target			Unattractive Target		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Self-uncertainty	34	3.336	1.246	27	3.364	1.299	33	3.250	1.523	27	3.204	1.154
Uncertainty	34	3.235	1.494	27	3.982	1.522	33	3.788	1.704	27	3.296	1.620
Target Distance	34	2.235	1.304	27	2.207	1.492	33	2.303	1.610	27	2.519	1.740
2803 Distance	34	2.470	1.619	27	2.520	1.451	33	2.360	1.782	27	2.560	1.739
2766 Distance	34	2.380	1.349	27	2.520	1.602	33	2.330	1.726	27	2.440	1.649
Target Leader Support	14	5.714	1.139	3	4.417	0.382	16	5.547	1.130	2	5.125	0.884
2803 Leader Support	12	5.458	0.982	12	5.646	0.991	7	6.286	0.621	13	5.135	1.135
2766 Leader Support	8	5.563	0.894	12	5.375	0.589	10	5.575	0.866	12	5.292	0.922
Target Removal	11	4.191	0.522	17	3.900	0.680	6	4.233	0.692	17	4.165	0.384
2803 Removal	7	3.600	0.894	6	4.283	0.475	13	4.485	0.705	5	4.180	0.576
2766 Removal	16	4.338	0.491	4	4.100	0.115	14	4.436	0.797	5	3.880	0.622
Target Warmth	34	4.860	1.094	27	4.380	0.870	33	5.265	1.106	27	4.639	0.900
2803 Warmth	34	4.978	1.027	27	4.963	1.030	33	5.235	1.137	27	4.685	0.967
2766 Warmth	34	4.985	0.973	27	4.796	0.877	33	5.189	1.095	27	4.713	0.935
Target Competence	34	6.441	1.293	27	5.759	1.360	33	6.750	1.270	27	6.028	1.101
2803 Competence	34	5.229	1.121	27	5.133	0.981	33	5.382	1.008	27	4.919	1.000
2766 Competence	34	5.265	0.956	27	5.163	0.838	33	5.509	0.993	27	4.852	0.914

	Newcomer						Old-timer					
	Attractive Target			Unattractive Target			Attractive Target			Unattractive Target		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Group Identification	34	4.865	1.102	27	4.563	1.068	33	4.679	1.275	27	4.696	0.886
Self-attractiveness	34	4.363	1.439	27	4.617	1.270	33	4.919	1.498	27	4.827	1.376

Discussion

This work intends to further the current understanding of the relationships between physical attractiveness, newcomer status, and member prototypicality within an intragroup context. The experiment used both a survey and a game to manipulate participants' prototypicality and group composition. Because of the novelty of the research question, the study used a variety of dependent measures to garner a greater understanding of the effects of the manipulations. The data did not provide sufficient support for all of the hypotheses. However, general trends found in the leadership and member removal variables reflected the hypothesized directions of the results. Participants in the prototypical condition selected attractive old-timers for the leadership position more than attractive newcomers. Participants in both the prototypical and peripheral conditions derogated attractive newcomers more than attractive old-timers. The results suggest that a newcomer status may be detrimental for attractive individuals in terms of leadership selection and removal from the group.

Importantly, target attractiveness was found to be significantly related to warmth. In line with previous research on perceiving attractive individuals positively, participants viewed the attractive targets more warmly than the unattractive targets (Dion et al., 1972). This finding was clarified by the significant interaction between target attractiveness and participant prototypicality. Participants in the peripheral condition rated the attractive target higher in warmth than the unattractive target, whereas there was no difference in ratings of target warmth for participants in the prototypical condition. The results suggest that how one feels that they fit in a group plays a role in the

perception of other group members. An individual who feels peripheral may desire to socialize with and feel warmly towards a higher status group member in the hopes of understanding the desired group prototype and increase personal own status within the group (Hogg, 2001, 2006). However, it has yet to be explored if an individual is no longer as desperate to socialize with higher status group members when he or she feels prototypical of the group.

Unlike previous research, the experiment did not demonstrate significant evidence that self-attractiveness was related to target attractiveness (Little & Mannion, 2006). However, self-attractiveness was affected by the status of the target, such that participants who encountered the newcomer target reported lower self-attractiveness than participants who interacted with the old-timer target. The result may fall in line with existing intragroup research. A newcomer's entrance creates a stressful period for the group as members must reanalyze their position and status within the group. In the case of this study, the addition of a newcomer may have prompted participants to socially compare themselves to the newcomer within the domain of physical attractiveness, which may have affected their confidence of self-attractiveness.

These results should be taken with the consideration that the analysis was *post-hoc* and may be subject to alpha inflation. However, considering the novelty of the research question and design, one may interpret the significance of the results as inspiration for future research.

Limitations

This experiment is not without limitations. Although the Speedy Ball game was highly interactive, it did not include a check for the effectiveness of the newcomer manipulation. The results may have been stronger if participants had interacted longer with their groups as to make the addition of a newcomer more apparent. Another limitation is the sample of all-female participants. To remove another potential variable of gender, only female participants' results were analyzed. Future research should address gender as a factor, as previous research has suggested potential differences between men and women in terms of intragroup interactions (Eagly, 1978; Eisenberg & Lennon, 1983; Eagly & Steffen, 1986; Hall, 1978, Moreland & Levine, 1989). Furthermore, the profile pictures were of young, White female faces from the Chicago Face Database (CFD). While this simplifies the design of the study, future research is necessary to fully understand the range of physical attractiveness within different cultures and ethnicities. Additionally, participants may not have viewed the faces as they would their peers, as the average participant was around 40 years old. The unattractive target profile was noticeably less slim than the other profiles. This adds another limitation to the study, as there is an existing negative bias towards overweight individuals (see Seibert, Schindler, & Reinhard, 2015).

The profile pictures for this were chosen based on an acceptable number of CFD raters (between 85 and 100 raters, as opposed to 30) to ensure accuracy of ratings. Unfortunately, the highest rated profile with an acceptable number of raters was only rated as 5.09 on a ten point attractiveness scale. The moderately attractive profiles were

rated as 3.36 and 3.39, and the unattractive profile was rated as 1.61. Future research should use profiles with more variability of attractiveness.

In addition, there were unexpected differences between the participants in the Moral Personality condition and the Open Personality condition. Participants in the Moral condition (M = 5.80, SD = 0.98) tended to rate their belief in the personality survey higher than participants in the Open condition (M = 4.90, SD = 1.47), t(245) = 5.66, p < .001, d = .72. Participants in the Moral condition (M = 5.58, SD = 1.03) also rated the survey as more effective than the Open condition participants (M = 4.62, SD = 1.56), t(245) = 5.67, p < .001, d = .73. Assigned personality type should be controlled for in future research.

"Please indicate the degree to which the personality description reveals basic characteristics of your personality", and "Please indicate how effective the personality test is in revealing your personality"

Lastly, the survey's organization did not allow for further testing of the leadership and removal or derogation variables. Because participants only rated the member that they selected for leadership/removal, there was not a large enough sample size in each condition for comparison. Future testing should allow for participants to rate *all* group members on the leadership and derogation scales, to better analyze comparison.

Future Directions

In addition to accounting for the limitations of this study, future research may also expand on the Speedy Ball game. Speedy Ball is a practical way to enhance experimental

designs through its realism, with its interactive design. The game simulates a real-world setting, without the need for real-world confederates. Speedy Ball is a challenging, engaging activity that may serve as a manipulation for many intragroup situations. While playing Speedy Ball, participants consistently viewed their teammates profile pictures and scores. Further tweaks of the game may allow Speedy Ball to manipulate a variety of intragroup contexts.

Future research may also explore the post-hoc findings in this study; such as, the role of prototypicality in the perception of attractive group members. Future research should also analyze the trends of attractiveness, newcomer status, and member prototypicality in leadership selection and member removal.

Concluding Remarks

We live in a world made up of groups, large and small. Many of our day to day interactions take place within intragroup contexts. Our identities are composed of our group memberships and the prototypes of those groups. Those who gain status in their groups and achieve leadership positions as well as those who are kicked out of the group alter the construction of the group prototype and in turn, the self. There are multiple factors that affect who we deem acceptable for group membership or leadership. The study of group membership and the social identity theory of leadership rarely address individual characteristics as indicators for group membership (see Hains et al., 1997; Hogg et al., 1998; Hogg, 2001, 2007; Rast et al., 2012). While we often assess members' likeness to the group prototype to determine fit within the group, we are also subject to

heuristics and bias. Individual characteristics, such as attractiveness, affect perceptions of others, and may have the potential to override assessments of prototype and prototype fit. This work argues that individual characteristics, such as physical attractiveness, should be included in group membership and social identity research, to allow for a greater understanding of newcomer acceptance and assimilation.

References

Abrams, D., & Hogg, M. A. (1988). Comments on the motivational status of self-esteem in social identity and intergroup discrimination. *European Journal of Social Psychology, 18*, 317-334. doi: 10.1002/ejsp.2420180403

Agthe, M., Spörrle, M., & Maner, J. K. (2010). Don't hate me because I'm beautiful: Anti-attractiveness bias in organizational evaluation and decision making. *Journal of Experimental Social Psychology, 46*, 1151-1154. doi: 10.1016/j.jesp.2010.05.007

Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology, 81*, 116-132. doi: 10.1037/0022-3514.81.1.116

Archer, D. (1973). The face of power: Physical attractiveness as a nonverbal predictor of small group stratification. *Proceedings of the Annual Convention of the American Psychological Association*. Retrieved from http://psycnet.apa.org/record/1973-24741-001

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596-612. doi: 10.1037/0022-3514.63.4.596

Belmi, P., & Neale, M. (2014). Mirror, mirror on the wall, who's the fairest of them all? Thinking that one is attractive increases the tendency to support inequality. *Organizational Behavior and Human Decision Processes, 124*, 133-149. doi: 10.1016/j.obhdp.2014.03.002

Bizumic, B., Reynolds, K. J., Turner, J. C., Bromhead, D., & Subasic, E. (2009). The role of the group in individual functioning: School identification and the psychological well-being of staff and students. *Applied Psychology: An International Review, 58*, 171-192. doi: 10.1111/j.1464-0597.2008.00387

Bobadilla, L., Metze, A. V., & Taylor, J. (2013). Physical attractiveness and its relation to unprovoked and reactive aggression. *Journal of Research in Personality, 47*, 70-77. doi: 10.1016/j.jrp.2012.09.004

Brewer, M. B. (2001). The social self: On being the same and different at the same time. In M. A. Hogg, & D. Abrams (Eds.), *Intergroup relations: Essential readings; intergroup relations: Essential readings* (pp. 245-253). New York, NY: Psychology Press.

Brewer, M. B. (2003). Optimal distinctiveness, social identity, and the self. In M. R. Leary, & J. P. Tangney (Eds.), *Handbook of self and identity; handbook of self and identity* (pp. 480-491). New York, NY: Guilford Press.

Buunk, A. P., Massar, K., & Dijkstra, P. (2007). A social cognitive evolutionary approach to jealousy: The automatic evaluation of one's romantic rivals. In J. P. Forgas, M. G. Haselton & W. von Hippel (Eds.), *Evolution and the social mind: Evolutionary psychology and social cognition* (pp. 213-228). New York, NY: Taylor & Francis.

Campbell, J. D. (1990). Self-Esteem and clarity of the self-concept. *Journal of Personality and Social Psychology, 59,* 538-549. doi: 10.1037/0022-3514.59.3.538

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*, 141-156. doi: 10.1037/0022-3514.70.6.1114

Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology, 34*, 366-375. doi:10.1037/0022-3514.34.3.366

Cruwys, T., Gaffney, A. M., & Skipper, Y. (2017). Uncertainty in transition: The influence of group cohesion on learning. In K. I. Mavor, M. J. Platow & B. Bizumic (Eds.), *Self and social identity in educational contexts; self and social identity in educational contexts* (pp. 193-208). New York, NY: Taylor & Francis.

Dion, K., Berscheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology, 24*, 285-290. doi: 10.1037/h0033731

Ditrich, L., & Sassenberg, K. (2016). It's either you or me! Impact of deviations on social exclusion and leaving. *Group Processes & Intergroup Relations, 19*, 630-652. doi: 10.1177/1368430216638533

Ditrich, L., Scholl, A., & Sassenberg, K. (2017). Time to go! Leaving the group in response to norm-deviations. *Journal of Experimental Social Psychology*, 73. doi: 10.1016/j.jesp.2017.07.005

Eagly, A. H., & Steffen, V. J. (1986). Gender and aggressive behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100,* 309-330. doi: 10.1037/0033-2909.100.3.309

Eagly, A. H. (1978). Sex differences in influenceability. *Psychological Bulletin, 85,* 86-116. doi: 10.1037/0033-2909.85.1.86

Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin, 94,* 100-131. doi: 10.1037/0033-2909.94.1.100

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117-140. doi: 10.1177/001872675400700202

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82,* 878-902. doi: 10.1037/0022-3514.82.6.878

Gaffney, A. M., Rast, D. E., III, Hackett, J. D., & Hogg, M. A. (2014). Further to the right: Uncertainty, political polarization and the American "tea party" movement. *Social Influence, 9,* 272-288. doi: 10.1080/15534510.2013.842495

Gallagher, E. B., & Sias, P. M. (2009). The new employee as a source of uncertainty: Veteran employee information seeking about new hires. *Western Journal of Communication, 73,* 23-46. doi: 10.1080/10570310802636326

Grant, F., & Hogg, M. A. (2012). Self-uncertainty, social identity prominence and group identification. *Journal of Experimental Social Psychology, 48*, 538-542. doi: 10.1016/j.jesp.2011.11.006

Hains, S. C., Hogg, M. A., & Duck, J. M. (1997). Self-categorization and leadership: Effects of group prototypicality and leader stereotypicality. *Personality and Social Psychology Bulletin, 23*, 1087-1100. doi: 10.1177/01461672972310009

Hall, J. A. (1978). Gender effects in decoding nonverbal cues. *Psychological Bulletin, 85*, 845-857. doi: 10.1037/0033-2909.85.4.845

Hamilton, D. L., & Sherman, S. J. (1996). Perceiving persons and groups. *Psychological Review, 103*, 336-355. doi: 10.1037/0033-295X.103.2.336

Haslam, S. A., & Ellemers, N. (2011). Identity processes in organizations. In S. J. Schwartz, K. Luyckx & V. L. Vignoles (Eds.), *Handbook of identity theory and research (vols. 1 and 2); handbook of identity theory and research (vols. 1 and 2)* (pp. 715-744). New York, NY: Springer Science & Business Media.

Hazlett, R. L., & Hoehn-Saric, R. (2000). Effects of perceived physical attractiveness on females' facial displays and affect. *Evolution and Human Behavior, 21*, 49-57. doi: 10.1016/S1090-5138(99)00036-7

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review, 5*, 184-200. doi: 10.1207/S15327957PSPR0503_1

Hogg, M. A. (2006). Social Identity Theory. In P. J. Burke (Ed.), *Contemporary social psychological theories* (pp. 111-136). Palo Alto, CA: Stanford University Press.

Hogg, M. A. (2007). Social psychology of leadership. In A. W. Kruglanski, & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles (2nd ed.)* (pp. 716-733). New York, NY: Guilford Press.

Hogg, M. A. (2009). Managing self-uncertainty through group identification. *Psychological Inquiry, 20*, 221-224. doi: 10.1080/10478400903333452

Hogg, M. A., & Adelman, J. (2013). Uncertainty–identity theory: Extreme groups, radical behavior, and authoritarian leadership. *Journal of Social Issues, 69*, 436-454. doi: 10.1111/josi.12023

Hogg, M. A., & Hains, S. C. (1996). Intergroup relations and group solidarity: Effects of group identification and social beliefs on depersonalized attraction. *Journal of Personality and Social Psychology*, 70, 295-309. doi: 10.1037/0022-3514.70.2.295

Hogg, M. A., & Mullin, B. (1999). Joining groups to reduce uncertainty: Subjective uncertainty reduction and group identification. In D. Abrams, & M. A. Hogg (Eds.), *Social identity and social cognition; social identity and social cognition* (pp. 249-279). Malden, MA: Blackwell Publishing.

Hogg, M. A., Hains, S. C., & Mason, I. (1998). Identification and leadership in small groups: Salience, frame of reference, and leader stereotypicality effects on leader

evaluations. *Journal of Personality and Social Psychology, 75,* 1248-1263. doi: 10.1037/0022-3514.75.5.1248

Hogg, M. A., Sherman, D. K., Dierselhuis, J., Maitner, A. T., & Moffitt, G. (2007). Uncertainty, entitativity, and group identification. *Journal of Experimental Social Psychology, 43*, 135-142. doi: 10.1016/j.jesp.2005.12.008

Hohman, Z. P., Gaffney, A. M., & Hogg, M. A. (2017). Who am I if I am not like my group? Self-uncertainty and feeling peripheral in a group. *Journal of Experimental Social Psychology*, *72*, 125-132. doi: 10.1016/j.jesp.2017.05.002

Hohman, Z. P., & Hogg, M. A. (2015). Fearing the uncertain: Self-uncertainty plays a role in mortality salience. *Journal of Experimental Social Psychology*, *57*, 31-42. doi: 10.1016/j.jesp.2014.11.007

Hoppe, F. (1930). Erfolg und Misserfolg. *Psychologische Forschung*, *14*, 1-62. doi: 10.1007/BF00403870

Joseph, R. (1985). Competition between women. *Psychology: A Journal of Human Behavior, 22*, 1-12. Retrieved from http://psycnet.apa.org/record/1987-03956-001

Jung, J., Hogg, M. A., & Choi, H. (2016). Reaching across the DMZ: Identity uncertainty and reunification on the Korean peninsula. *Political Psychology, 37,* 341-350. doi: 10.1111/pops.12252

Katz, D. (1982). The effects of group longevity on project communication. *Administrative Science Quarterly, 27,* 81-104. doi: 10.2307/2392547

Little, A. C., & Mannion, H. (2006). Viewing attractive or unattractive same-sex individuals changes self-rated attractiveness and face preferences in women. *Animal Behaviour, 72,* 981-987. doi: 10.1016/j.anbehav.2006.01.026

Merei, F. (1949). Group leadership and institutionalization. *Human Relations, 2,* 23-39. doi: 10.1177/001872674900200103

Merei, F. (1971). The pair and the group: Experiments in group dynamics with children. *Comparative Group Studies, 2,* 17-24. doi: 10.1177/104649647100200102

Michaels, L. (Producer), & Waters, M. (Director). (2004). *Mean Girls* [Motion Picture]. United States: Paramount Pictures.

Moreland, R. L., & Levine, J. M. (1989). Newcomers and oldtimers in small groups. In P. B. Paulus (Ed.), *Psychology of group influence* (pp. 143-186). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Putz, Á., Palotai, R., Csertő, I., & Bereczkei, T. (2016). Beauty stereotypes in social norm enforcement: The effect of attractiveness on third-party punishment and reward. *Personality and Individual Differences, 88*. 230-235. doi: 10.1016/j.paid.2015.09.025

Rast, D. E., III, Gaffney, A. M., Hogg, M. A., & Crisp, R. J. (2012). Leadership under uncertainty: When leaders who are non-prototypical group members can gain support. *Journal of Experimental Social Psychology, 48,* 646-653. doi: 10.1016/j.jesp.2011.12.013

Rydell, R. J., & McConnell, A. R. (2005). Perceptions of entitativity and attitude change. *Personality and Social Psychology Bulletin, 31,* 99-110. doi: 10.1177/0146167204271316

Seibert, A., Schindler, S., & Reinhard, M. (2015). The heavy weight of death: How anti-fat bias is affected by weight-based group membership and existential threat. *Journal of Applied Social Psychology, 45,* 139-146. doi: 10.1111/jasp.12283

Sigall, H., & Landy, D. (1973). Radiating beauty: Effects of having a physically attractive partner on person perception. *Journal of Personality and Social Psychology, 28,* 218-224. doi: 10.1037/h0035740

Sigall, H., & Ostrove, N. (1975). Beautiful but dangerous: Effects of offender attractiveness and nature of the crime on juridic judgment. Journal of Personality and Social Psychology, 31, 410-414. doi: 10.1037/h0076472

Snyder, M., Tanke, E. D., & Berscheid, E. (1977). Social perception and interpersonal behavior: On the self-fulfilling nature of social stereotypes. *Journal of Personality and Social Psychology, 35,* 656-666. doi: 10.1037/0022-3514.35.9.656

Tajfel, H. (1959). The anchoring effects of value in a scale of judgments. *British Journal of Psychology, 50,* 294-304. doi: 10.1111/j.2044-8295.1959.tb00709.x

Tajfel, H. (1972) Social Categorization. English Manuscript of "La catégorisation sociale". In: Moscovici, S., Ed., Introduction a la Psychologie Sociale, Vol. 1, Larousse, Paris, 272-302.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-37). Monterey, CA: Brooks/Cole.

Tesser, A., Millar, M., & Moore, J. (1988). Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology, 54*, 49-61. doi: 10.1037/0022-3514.54.1.49

Thorndike, E. L. (1920). A constant error in psychological ratings. *Journal of Applied Psychology*, 4, 25-29. doi: 10.1037/h0071663

Thornton, D., & Arrowood, A. J. (1966). Self-evaluation, self-enhancement, and the locus of social comparison. *Journal of Experimental Social Psychology,2,* 40-48. doi: 10.1016/0022-1031(66)90064-3

Turner, J. C. (1975). Social comparison and social identity: Some prospects for intergroup behaviour. *European Journal of Social Psychology, 5*, 5-34. doi: 10.1002/ejsp.2420050102

Turner, J. C. (1991). *Social influence.* Thomson Brooks/Cole Publishing Co, Belmont, CA.

Turner, J. C., & Oakes, P. J. (1989). In Paulus P. B. (Ed.), *Self-categorization theory and social influence* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. *European Journal of Social Psychology, 9*, 187-204. doi: 10.1002/ejsp.2420090207

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford and New York: Basil Blackwell.

Turner, J. C., Wetherell, M. S., & Hogg, M. A. (1989). Referent informational influence and group polarization. British Journal of Social Psychology, 28, 135-147. doi: 10.1111/j.2044-8309.1989.tb00855.x

Webster, M., & Driskell, J. E. (1983). Beauty as status. *American Journal of Sociology, 89*, 140-165. doi: dx.doi.org/10.1086/227836

Whittemore, I. C. (1925). The competitive consciousness. *The Journal of Abnormal and Social Psychology, 20*, 17-33. doi: 10.1037/h0072083

Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin, 90*, 245-271. doi: 10.1037/0033-2909.90.2.245

Wills, T. A. (1991). Similarity and self-esteem in downward comparison. In J. Suls & T.A. Wills (Eds.), *Social comparison: Contemporary theory and research* (pp.51-78). Hillsdale, NJ: Erlbaum.

Ziller, R. C., Behringer, R. D., & Jansen, M. J. (1961). The newcomer in open and closed groups. *Journal of Applied Psychology, 45*, 55-58. doi: 10.1037/h0048008

Appendices

APPENDIX A

Informed Consent

Agreement to Participate in Speedy Ball

You are invited to participate in a research study which will involve a survey and participation in a game. My name is Olivia Kuljian, and I am a graduate student at Humboldt State University College of Professional Studies. The purpose of this research is to study group dynamics in women. If you decide to participate, you will be asked to play a game and fill out a survey. Your participation in this study will last 30 minutes.

There are some possible risks involved for participants. These risks are no greater than what may be encountered in everyday life. There are no direct personal benefits for your participation. Participation in this study will allow you to engage in the research process and will benefit our research by providing us with invaluable information regarding group dynamics of women. Your participation in this project is voluntary. You have the right not to participate at all or to leave the study at any time without penalty or loss of benefits to which you may otherwise be entitled. You will receive $.45 for your participation in the study. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Your confidentiality is ensured; as survey data will be stored on Qualtrics, an online survey website (for more information see qualtrics.com). *The data obtained will be stored on password-protected computers for a period of three years after the study is completed.*

If you have any questions about this research at any time, please email me at ork17@humboldt.edu (or Dr. Amber Gaffney at amber.gaffney@humboldt.edu). If you have any concerns with this study or questions about your rights as a participant, contact the Institutional Review Board for the Protection of Human Subjects at irb@humboldt.edu or (707) 826-5165. You may print this informed consent form now and retain it for your future reference. If you agree to voluntarily participate in this research as described, and are at least 18 years old, please check the box below to begin the online survey. Thank you for your participation in this research.

○ I am 18 years of age, have read and understood this consent information, and agree to participate in this study.

○ No, I do not agree to participate in this study.

APPENDIX B

Personality Survey

Research has consistently shown that people tend to either have **Moral Personalities or Open Personalities.** These personalities differ in several ways and we believe that it may affect the way that people play *Speedy Ball.* Below are a number of personality traits that may or may not apply to you. Please select the button next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Extraverted, enthusiastic	○	○	○	○	○
Critical, quarrelsome	○	○	○	○	○
Dependable, self-disciplined	○	○	○	○	○
Anxious, easily upset	○	○	○	○	○
Open to new experiences	○	○	○	○	○
Reserved, quiet	○	○	○	○	○
Sympathetic, warm	○	○	○	○	○
Disorganized, careless	○	○	○	○	○
Calm, emotionally stable	○	○	○	○	○
Conventional, uncreative	○	○	○	○	○

APPENDIX C

Bogus Personality Feedback

Peripheral moral personality for newcomer condition

Based on your responses to the personality survey, you have a **Moral Personality**. Moral Personality-Types tend to be conscientious, fair, just, compassionate, and honest. You will be grouped with teammates who have **different** personalities, that is, your teammates will have **Open** Personalities, which are characterized by qualities of self-awareness, acceptance, extroversion, and inventiveness.

Prototypical open personality for old-timer condition

Based on your responses to the personality survey, you have an **Open Personality**. Open Personality-Types tend to be self-aware, accepting, extroverted, and inventive. You will be grouped with teammates who have **similar** personalities.

APPENDIX D

Manipulation Checks for Personality

Please indicate the degree to which the personality description reveals basic characteristics of your personality.

- ○ Not at all like me
- ○ Not like me
- ○ Not much like me
- ○ Neutral
- ○ Somewhat like me
- ○ Like me
- ○ Just like me

Please indicate how effective the personality test is in revealing your personality.

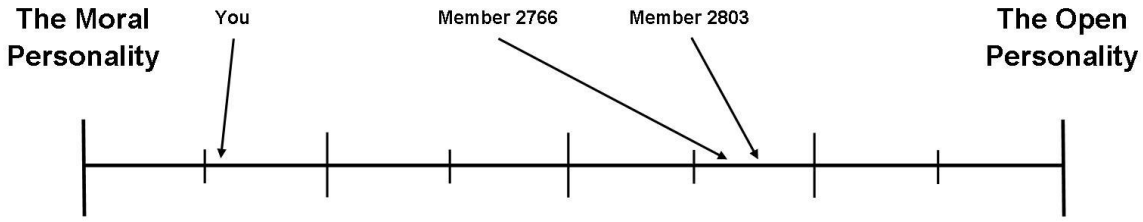
- ○ Very ineffective
- ○ Ineffective
- ○ Somewhat ineffective
- ○ Neither effective nor ineffective
- ○ Somewhat effective
- ○ Effective
- ○ Very effective

APPENDIX E

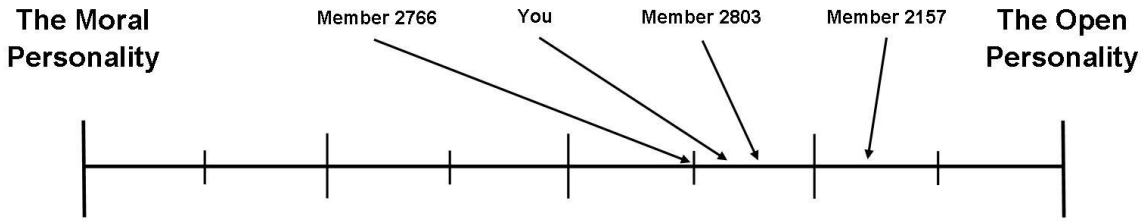
Teammate Personalities Figures

Peripheral moral personality for newcomer condition

The graph below shows you where your personality score falls in relation to your teammates' personality scores. Your personality is **different** from the other members of your Speedy Ball group.



Prototypical open personality for old-timer condition



APPENDIX F

Manipulation Check for Teammate Personality Similarity/difference

According to the feedback we just gave you, how similar is your personality type to your teammates' personalities?

- ○ Very dissimilar
- ○ Dissimilar
- ○ Somewhat dissimilar
- ○ Neither similar nor dissimilar
- ○ Somewhat similar
- ○ Similar
- ○ Very similar

APPENDIX G

Speedy Ball Prompt

Please follow the link to play the Speedy Ball game with your teammates. Remember to return to this page and hit next to complete the survey.

There will be a **code word** presented at the end of the game that you will need to enter in this survey to ensure you completed the game.

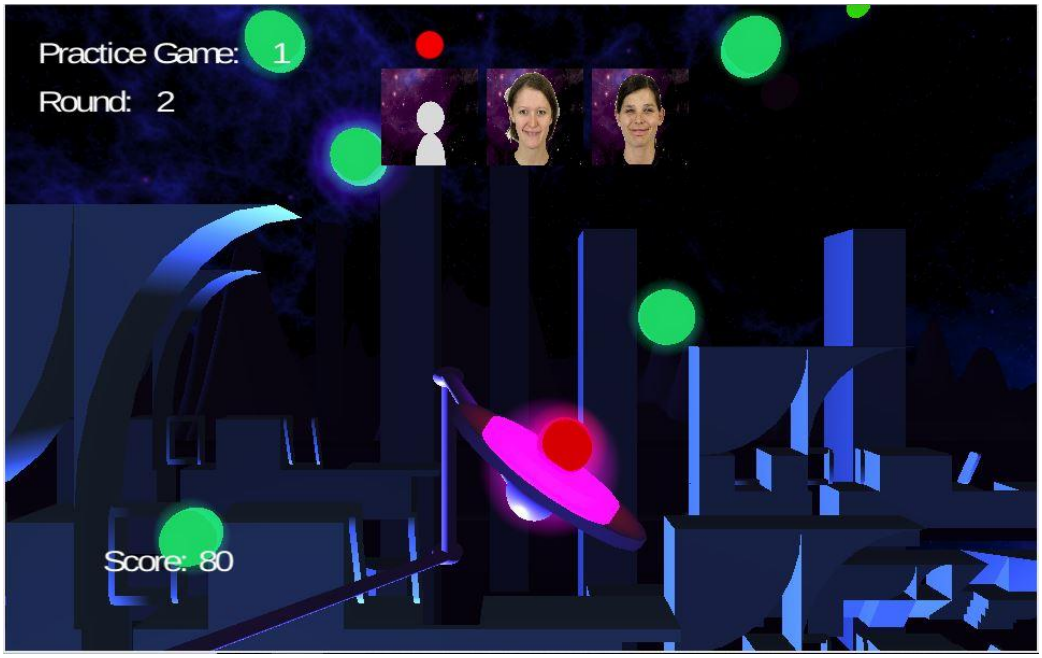
APPENDIX H

Speedy Ball Welcome Page

Players must train in order to progress to the “online” (“recorded”) rounds.

APPENDIX I

Speedy Ball Newcomer Condition

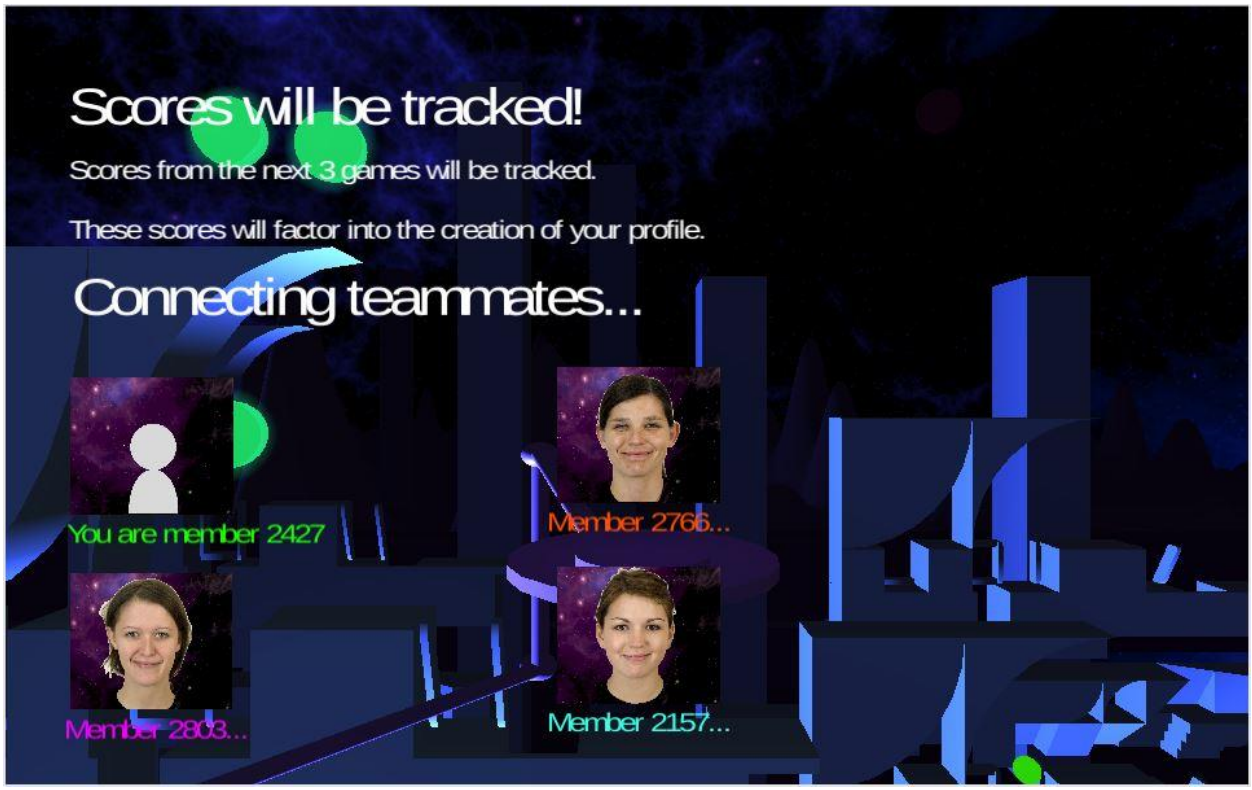


In the newcomer condition, there are two other teammates (both averagely attractive) in the practice rounds.

A new player (either attractive or unattractive) joins the team for the “recorded” rounds.

APPENDIX J

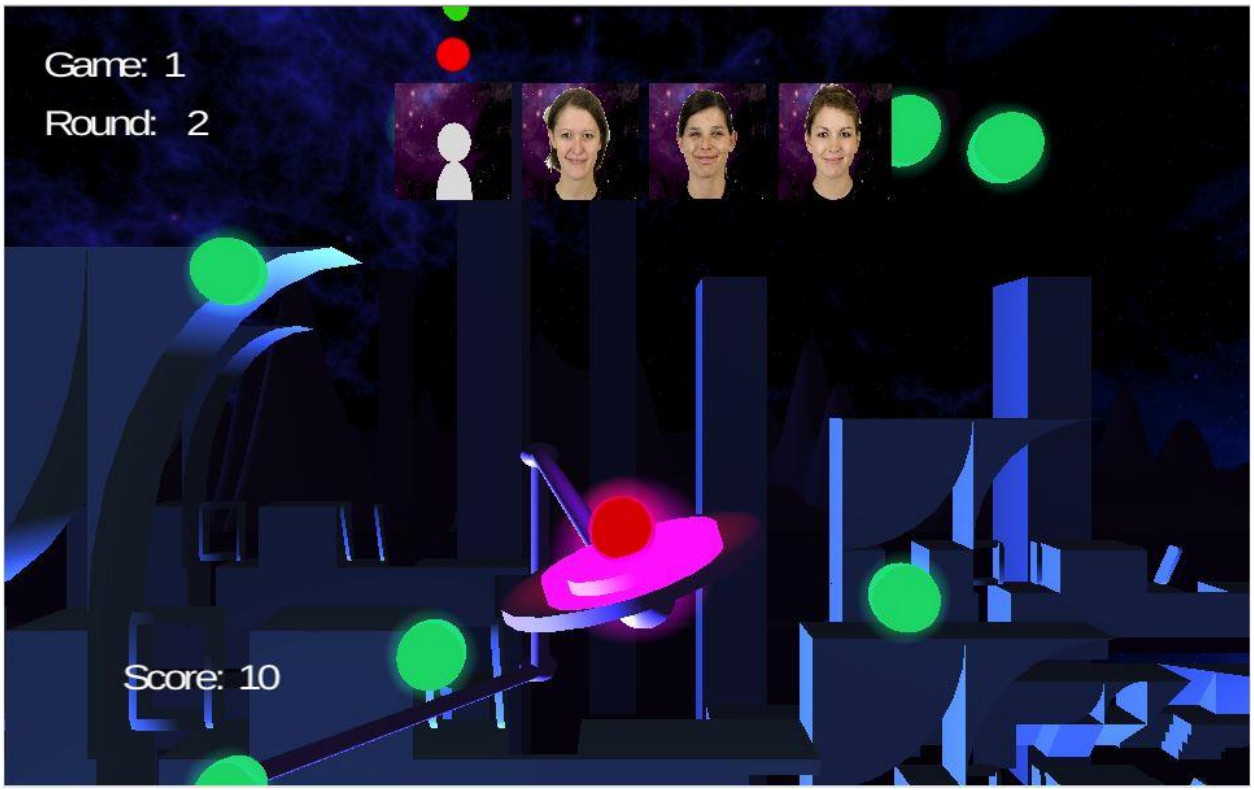
Speedy Ball Players



All three other players are present throughout the gaming session for the participants in the “old-timer” condition.

APPENDIX K

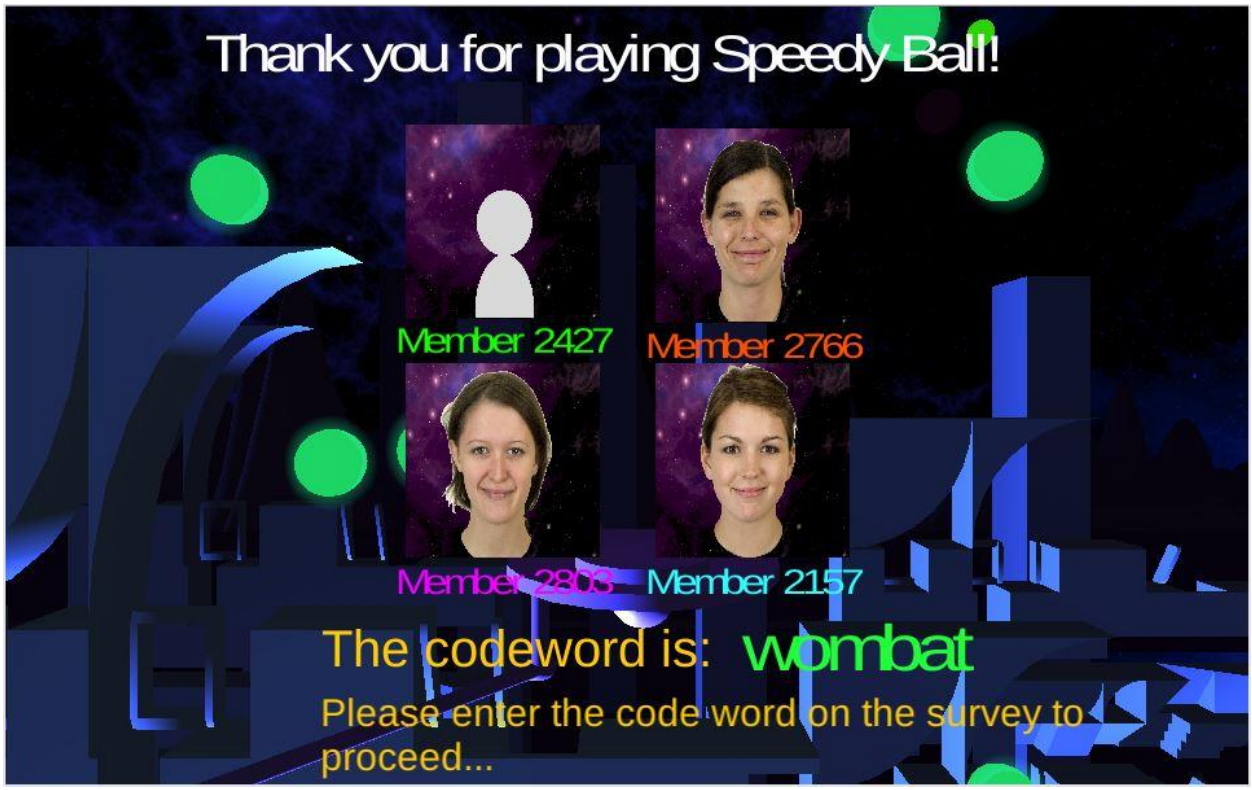
Speedy Ball Gameplay



Players have a view of their teammates throughout the gaming session. Turn is indicated by the red dot above the players' profile pictures.

APPENDIX L

Speedy Ball Code Word



Players are given a code word to enter on the Qualtrics survey.

APPENDIX M

Qualtrics Code Word Check

Welcome back! We would like your assessment of your other teammates. It's important to us how you select a team leader and how you vote to remove team members.

Please type the **code word** to continue (exactly as displayed and all lower case).

APPENDIX N

Warmth and Competence Scale

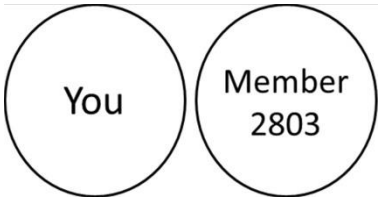
Please rate your agreement to the following statements about member 2801 (or 2766, 2157).

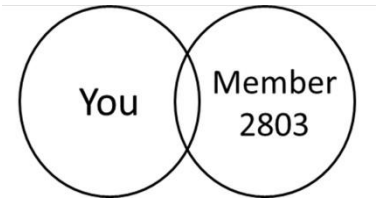
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The member is tolerant.	○	○	○	○	○	○	○
The member is good natured.	○	○	○	○	○	○	○
The member is sincere.	○	○	○	○	○	○	○
The member is warm.	○	○	○	○	○	○	○
The member is confident.	○	○	○	○	○	○	○
The member is competent.	○	○	○	○	○	○	○
The member is independent.	○	○	○	○	○	○	○
The member is competitive.	○	○	○	○	○	○	○
The member is intelligent.	○	○	○	○	○	○	○

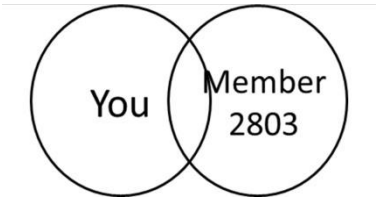
APPENDIX O

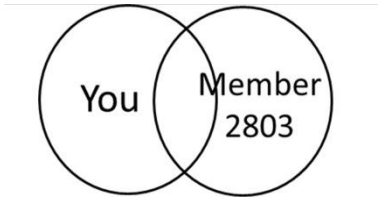
Inclusion of the Self and Other Scale

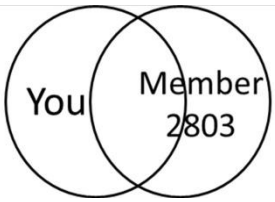
How close do you feel to member 2803 (or 2766, 2157)?

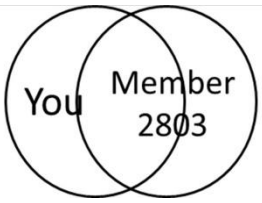
A. 

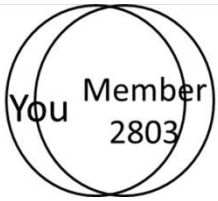
B. 

C. 

D. 

○ E. 

○ F. 

○ G. 

APPENDIX P

Leadership Selection

We are interested in your perceptions of your teammates. Please vote for a member to be team leader. Team leaders will be allowed to pick rival teams and remove members from the group in future Speedy Ball tournaments.

○ Member 2803 

○ Member 2766 

○ Member 2157  or 

(attractive condition) (unattractive condition)

APPENDIX Q

Leader Support Scale

Please rate your agreement to the following statements about the member you voted for.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I think this member would be an effective leader.	○	○	○	○	○	○	○
I think this leader would represent the interests of the group.	○	○	○	○	○	○	○
I would trust this leader.	○	○	○	○	○	○	○
I would support this leader.	○	○	○	○	○	○	○

APPENDIX R

Removal Selection

Speedy Ball teams may only consist of 3 players. Please vote for a member to be removed from the team.

○ Member 2803 

○ Member 2766 

○ Member 2157  or 

(attractive condition) (unattractive condition)

APPENDIX S

Derogation Scale

Please answer the following questions about the member you voted to be removed.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The member is considerate. (R)	○	○	○	○	○	○	○
The member is helpful. (R)	○	○	○	○	○	○	○
The member is friendly. (R)	○	○	○	○	○	○	○
The member is good. (R)	○	○	○	○	○	○	○
The member is likable. (R)	○	○	○	○	○	○	○
The member is bad.	○	○	○	○	○	○	○
The member is selfish.	○	○	○	○	○	○	○
The member is cold.	○	○	○	○	○	○	○
The member is trustworthy. (R)	○	○	○	○	○	○	○

I wish to be in a team with the member in the future. (R)	○	○	○	○	○	○	○

APPENDIX T

Group identification Scale

We are interested in your perceptions of your team. Please rate your agreement to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I represent what is characteristic of this Speedy Ball team.	○	○	○	○	○	○	○
I am a good example of a team member.	○	○	○	○	○	○	○
I am similar to most of the other team members.	○	○	○	○	○	○	○
I share common interests and ideals with the other team members.	○	○	○	○	○	○	○
I am representative of this Speedy Ball team.	○	○	○	○	○	○	○

APPENDIX U

Self-uncertainty scale

Please rate your agreement to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My beliefs about myself often conflict with one another.	○	○	○	○	○	○	○
On one day I might have one opinion of myself and on another day I might have a different opinion.	○	○	○	○	○	○	○
I wonder about what kind of person I really am.	○	○	○	○	○	○	○
I feel that I am not really the person that I appear to be.	○	○	○	○	○	○	○
When I think about the kind of person I have been in the past,	○	○	○	○	○	○	○

I'm not sure what I was really like.							
I seldom experience conflict between the different aspects of my personality.	○	○	○	○	○	○	○
I think I know other people better than I know myself.	○	○	○	○	○	○	○
My beliefs about myself seem to change very frequently.	○	○	○	○	○	○	○
If I were asked to describe my personality, my description might end up being different from one day to another.	○	○	○	○	○	○	○
Even if I wanted to, I don't think I would tell	○	○	○	○	○	○	○

someone what I'm really like.							
In general, I have a clear sense of who I am and what I am.	○	○	○	○	○	○	○
It is often hard for me to make up my mind about things because I don't really know what I want.	○	○	○	○	○	○	○

APPENDIX V

Uncertainty Scale

Please rate your agreement to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am uncertain about myself and the future.	○	○	○	○	○	○	○
I am worried about myself and the future.	○	○	○	○	○	○	○
I am concerned about myself and the future.	○	○	○	○	○	○	○
At this very moment, I feel uncertain about myself.	○	○	○	○	○	○	○
I feel uncertain about the future of this Speedy Ball group.	○	○	○	○	○	○	○

APPENDIX W

Self-attractiveness scale

Please rate your agreement to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I think I am physically attractive.	○	○	○	○	○	○	○
I think I have a lot of physically attractive qualities.	○	○	○	○	○	○	○
In general, I see myself as a physically attractive individual.	○	○	○	○	○	○	○

APPENDIX X

Demographics

What is your race/ethnicity (please select one)?

- ○ African American/Black
- ○ Asian American
- ○ Asian Indian American
- ○ Native American
- ○ Native Hawaiian or Pacific Islander
- ○ Hispanic or Latino American
- ○ White American
- ○ Other _____

How old are you (please write a number)?

_____

What is your gender?

- ☐ Female
- ☐ Male
- ☐ Non-binary

APPENDIX Y

Debriefing and consent of use of data

Thank you for your participation, you have now completed the study. The study you just participated was done for more reasons than just analyzing group dynamics in groups of women. The purpose of this study is to determine how individuals perceive new group members after being randomly assigned to conditions of high or low perceptions of fit within a social group, as well as conditions of having a new group member or no new group member, and lastly the new or old group member being physically attractive or not physically attractive. Physical attractiveness literature and within groups literature has shown that individuals tend to feel threatened by physically attractive new members of groups, particularly when the individuals feel uncertain of their fit within the group. The personality survey that you completed was made up for the purpose of this study. The Speedy Ball game was also created for this study. The other members of your group were computer simulations to make you feel as if you were part of an online group. We are particularly interested in how you perceived the physically attractive or unattractive group "members", when you felt you fit with the group or did not fit with the group. If you have any questions about the study, feel free to contact the principal investigator, Olivia Kuljian at ork17@humboldt.edu or the faculty advisor, Dr. Amber Gaffney at amber.gaffney@humboldt.edu or 707-826-4313. Thank you for your participation!

If you have concerns regarding the ethics of this survey, please contact the Chair of the Humboldt State Institutional Review Board at: email: irb@humboldt.edu.

Now that you understand the full aims of this study, would you like for us to use your data as part of our research?

- ○ Yes, please use my data.
- ○ No, please dispose of my results.