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The Permeability Paradox in the Context of Team Sports

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Abstract

The permeability paradox describes the loyalty conflict individuals experience when presented with opportunities for upward social mobility while remaining attached to their current group. This study examines the paradox in the context of team sport, where participants were offered the chance to join a higher team for the final matches of the season. Participants (N = 201) were randomly assigned to one of three conditions: the promotion condition, which highlighted the possibility of promotion of the higher team to a higher match pool, the demotion condition, which emphasized the risk of the current team being demoted to a lower match pool, and control condition, where neither scenario was mentioned. Results indicated that participants in the promotion condition were significantly more likely to select the higher team compared to those in the demotion and control conditions. Moreover, a strong athletic competitive identity (ACI) further increases the likelihood of choosing a higher team in the promotion condition. When imagining they had joined the higher team, participants in the promotion condition reported fewer negative emotions than those in the demotion or control groups. Additionally, higher ACI scores were associated with fewer negative emotions/feelings in the promotion condition, whereas in the demotion condition, more negative emotions/feelings were experienced.

Keywords: Loyalty conflict, team sport, negative emotions/feelings, Athletic Competitive Identity, Upward Social Mobility

The permeability paradox, in the context of team sport.

Have you ever been in a situation in which you were offered the opportunity to join a higher-status group, but felt uneasy about accepting that offer because you felt a certain loyalty to the current group? This type of dilemma can occur in various contexts. For instance, being assigned to a more prestigious project within an organization or joining the popular kids at lunch instead of your old friend group. It is a conflict between individual and group interests.

A clear example of this tension occurs in team sports, when an athlete receives the opportunity to join a higher-ranking team, potentially at the cost of letting down their current teammates. A real-life illustration of this dynamic is in the case of Dutch soccer player Steven Berghuis, who transferred from Feyenoord to Ajax, a rival club perceived as having greater competitive prospects. This led to intense backlash from Feyenoord supporters and feelings of betrayal within the former club (RTL Nieuws, 2021).

The loyalty conflict may also crucially depend on contextual factors. For instance, if the current team has a potential risk of demotion to a lower match pool/league if they lose the upcoming matches, the individual may feel a stronger obligation to remain, motivated by solidarity and moral responsibility in such a critical situation. However, if the higher team has the potential for promotion to a higher match pool/league if they win their upcoming matches, the move represents a significant personal opportunity for growth or achievement, and the loyalty conflict may be weaker or take a back seat.

This process, whereby individuals transition into higher-status groups, is referred to as upward social mobility. The idea of upward mobility begins with James Truslow Adams, the writer of his 1933 book The Epic of America, and is part of the so-called “American Dream”. He described that our status is not determined by birth and therefore there is a possibility to move up

on the social ladder (Murtoff, 2025). Upward social mobility is a positive phenomenon used in many meritocratic societies whereby, if the hierarchy is flexible and boundaries are permeable, with hard work, individuals can move to a higher status group (Davidai & Gilovich, 2015).

However, one of the downsides of social mobility is when loyalty to a low-status group conflicts with the opportunity for upward mobility, and this has been called the "permeability paradox" (Spears & Suhlmann, 2017). This relatively unexplored phenomenon provides insights into why some individuals might reject opportunities for upward social mobility.

To the best of our knowledge, there are no studies published on the permeability paradox. However, studies about loyalty conflicts have addressed explanations as to why people choose not to move to a higher social status. One explanation is that upward mobility may be met with disapproval from the current group. When individuals choose to join a higher-status group and thereby distance themselves from their original group, the lower-status group may perceive this as an act of disloyalty and respond by disapproving of the decision, rather than supporting the individual's upward mobility. On the other hand, choosing the old group can lead to rejection of the high-status group in upcoming possibilities. It is therefore important to maintain a good relationship with the original group in case of rejection from the new group (Van Laar et al., 2014).

Previous research on socioeconomic status (SES) has illustrated the psychological costs of upward mobility. Individuals who transition into a higher SES report more mental health challenges compared to those who have always belonged to a high SES group (Islam et al., 2024). For instance, students from low SES who enter college or university experience weakened ties to both their working-class background and their emerging academic identity. The uncertainty about their SES can lead to physical and mental dysfunctions (Destin & Debrosse, 2018). Moreover, higher-status groups often operate with a broader horizon with different values,

expectations and more opportunities, which the old ingroup does not fully understand or appreciate with these differences can lead to friction and, intensify loyalty conflicts as individuals may struggle to reconcile the norms of their new environment with those of their background (Curl et al., 2018).

Previous research, suggests that the "permeability paradox" appears both in broad contexts, such as moving from a working-class background to academia (Curl et al., 2018; Destin & Debrosse, 2018), and in more specific scenarios like a psychology student who gets the chance to join a medical team for a university quiz (Spears and Suhlmann, 2017). This study introduces a new context for examining this paradox in team sports, where upward mobility is clearly defined and group members are mutually dependent.

Team sports are characterized by a strong sense of group identity, solidarity, and ingroup favoritism, which are reinforced through teamwork and interdependence (Rees et al., 2015). Players rely on each other, influencing not only the functioning and performance of the team but also individual motivation and emotional well-being (Evans et al., 2013; Evans & Eys, 2014). Through cooperation, team members pursue a common goal by winning games (Deutsch, 1949; Evans & Eys, 2014). Maintaining team cohesion is essential, given its strong correlation with team performance (Carron & Chelladurai, 1981). However, team sports also foster a drive for personal improvement, with some athletes exhibiting stronger individual ambitions than others. This dual dynamic can create a psychological dilemma for athletes.

Context plays a critical role in such decisions. In team sports, the interdependence among players can give rise to feelings of betrayal when an individual leaves the team to pursue a higher-level opportunity. Why might switching teams lead to loyalty conflicts and negative emotions? One explanation lies in the concept of self-integrity; individuals strive to maintain a coherent and positive self-concept (Steele, 1988). In this context, leaving a team for personal

advancement may conflict with an athlete's self-perception as a loyal and supportive team member, thereby generating internal tension and emotional discomfort.

The greater the inconsistency between behavior (going to the higher team) and self-concept (being a good team member), the stronger a loyalty conflict is likely to be. According to the cognitive dissonance theory, you cope with this threat to your valued self-concept using different approaches: individuals can change their behavior or find ways to justify their choice that allow them to view their actions as consistent with their self-concept. Variations in how easily a decision can be justified influence the choices individuals make. This ease of justification is influenced by the context in which the decision is made (Steele, 1988).

For instance, consider a scenario in which a higher team has a chance of promotion (going to a higher match pool/league) if they win their last matches of the season and need extra help to fulfill this. In such a situation, although leaving one's current team may seem disloyal, helping the higher team might be perceived as a justifiable choice, not just providing an opportunity to play the hero but helping the club to get to a higher level. This reasoning can help justify such a choice and reduce the internal conflict associated with disloyalty by seeing the choice as something that helps more than just yourself.

However, making such a move may also threaten your current team, potentially increasing the risk of demotion (going to a lower match pool or league) if they lose their last matches. The potential loss makes loyalty to the team more important, whereby the decision to choose for higher team may be more difficult to justify to yourself and your old teammates. Reasons for choosing the higher team and consisting of a positive self-concept more difficult. This may be possible reason to avoid cognitive dissonance is by changing behavior and choosing the current team.

As well as situational factors, individual differences play a role in such decision-making.

The individual identity is a part of the identity with unique traits that distinguish them from the rest (Brewer and Gardner, 1996; Hogg et al., 2017). Due to this, it can lead to different behavior. In the context of team sports, athletic identity – the extent to which individuals define themselves through their role as athletes – could play an important factor in decision-making (Lee et al., 2023; Lochbaum et al., 2022). Those with a strong athletic identity are typically more motivated to perform well and may experience greater internal pressure to take opportunities that align with their identity. Moreover, this is influenced by negative affect, or the emotional distress experienced when one feels they are not fulfilling their athletic role (Ronkainen et al., 2016). Therefore, when presented with an opportunity to join a higher-level team, individuals with a strong athletic identity are more likely to pursue it to maintain alignment with their perceived role and personal goals (Lochbaum et al., 2022).

To conclude, this study examines the permeability paradox by testing participants' loyalty to their current team when presented with an opportunity to join a higher team. The primary experimental manipulation involves three conditions: a promotion scenario (where the higher team has the potential to move up to a better league), a demotion scenario (where the current team risks being relegated), and a control condition (with no change in league status). The study aims to assess participants' choices, the difficulty of the decision, and their emotional responses after being assigned to the higher team. Additionally, competitive athletic identity is included as a covariate and moderator to investigate whether individuals with stronger athletic identities respond differently to the loyalty conflict. So the research question can be stated as follows: How does the potential for promotion or demotion influence loyalty conflict, and how is this relationship potentially influenced by athletic competitive identity?

The first hypothesis suggests that participants in the demotion condition will be more likely to prefer remaining with their current team rather than moving to a higher team, compared

to those in the promotion and control conditions. This is based on the assumption that leaving a team at risk of demotion presents a higher perceived cost or moral conflict.

The second hypothesis suggests that participants in the promotion condition will be more likely to prefer joining the higher team rather than staying with their current team, compared to those in the demotion and control conditions. In this context, contributing to a team's promotion may offer personal benefits, making it easier to justify leaving the current team.

The third hypothesis concerns the influence of the covariate: individuals with a stronger athletic competitive identity will show a greater preference for the higher team over the current team, compared to individuals with a weaker athletic competitive identity. This is because participants with a stronger athletic competitive identity see sports as something important and display a strong competitive drive, which makes the higher team a more attractive choice.

For exploratory purposes, it is also valuable to examine athletic competitive identity (ACI) as a potential moderator of the relationship between the experimental conditions and the preference for choosing one of the teams. This effect of athletic competitive identity is expected to be stronger in the promotion condition compared to the demotion and control conditions. This is because moving to the higher team, with the possibility of contributing to its promotion, aligns with the athletic self-concept and competitive drive. Conversely, the effect is expected to be weaker in the demotion condition, as abandoning the current team during a critical moment would conflict with one’s athletic identity.

The following hypotheses address the scenario whereby participants are asked to imagine that they *have* chosen the higher team. The fourth hypothesis is that when participants imagine choosing the higher team, those in the demotion condition will experience more negative emotions/feelings compared to participants in the promotion and control conditions. This may be because participants in the demotion condition can get the feeling that when they choose the

higher team, they have a greater feeling of letting the current team down, which can lead to more negative emotions.

The fifth hypothesis is that when participants imagine choosing the higher team, those in the promotion condition will experience fewer negative emotions/feelings compared to participants in the demotion and control conditions. This is maybe because they can help the higher team to promote, which increases personal gain, and is it more justified?

The sixth hypothesis concerns the influence of the covariate: when participants imagine choosing the higher team, those with a stronger athletic competitive identity will experience fewer negative emotions/feelings compared to those with a weaker athletic competitive identity. This is because choosing the higher team is in line with ambition and therefore there is less loyalty conflict, so fewer negative emotions/feelings.

For exploratory purposes, it is valuable to look at the interaction effect between athletic competitive identity and negative emotions and feelings. This effect of athletic competitive identity is expected to be stronger in the promotion condition than the control condition and demotion condition, as choosing the higher team aligns with their competitive drive, and therefore reduces loyalty conflict, which will lead to lowering negative emotions and feelings. In contrast, the effect is anticipated to be weaker in the demotion condition compared to both the promotion and control conditions, since leaving the team during a vulnerable period would contradict their athletic identity, resulting in higher negative emotions and feelings.

Method

Participants and Design

The participants will be psychology students of the University of Groningen recruited via SONA. This study (PSY-2425-S-0109) has the approval of the Ethical Review Board. The

experiment is made by the program Qualtrics, and posted on SONA for psychology students of the University of Groningen to do. The students will get study credits for their participation; therefore, the SONA id will be collected to give credits for their participation. Afterward for collecting the data, the personal numbers will be deleted so that every participant will be anonymous.

The study conducted a G*Power analysis (G*Power 3.1.9.7. software) to measure how many participants this study needs by a certain statistical power (Faul et al., 2007). The analysis is based on the study of Spears and Suhlmann (2017), and therefore it will use an ANOVA for the main effect and an ANCOVA for the covariation, with a medium effect size of 0.25, alpha of 0.05, and a power of 0.8. Therefore, a total of 158 participants is needed. Because of the chance of certain outliers or dropouts, the study will increase this number by roughly 10% so 175 participants are required for this study.

The study recruited 201 participants out of the SONA pool of mostly first-year psychology students; the mean age was around 19. This study will not recruit their age, for privacy reasons. There were 133 women (66,2%) and 67 men (33,2%), and one individual who preferred not to say their gender.

The design consists of three manipulation conditions (promotion, demotion, and control) and two dependent variables in the first and second parts of the study (preference for one of the teams and negative emotions/feelings).

Measurements and Procedure

Demographics

The first question participants get is about which language they want the study to be conducted. This is to make the questionnaire attractive for both Dutch and international students. At the beginning of the study, some demographic questions are asked. First, ‘What is your

gender' with the answers: 'woman', 'man', 'other', and 'prefer not to say'. The age was not asked for, because of the privacy of the students. The average first-year student is around 19 years old. The last demographic question is 'Have you played in a sports team?' With the answers: 'Yes, I have played in a sports team' and 'No, I have not played in a sports team'. This information can be used for exploratory purposes.

Athletic Competitive Identity Questionnaire (ACI)

After the demographic questions, participants got the Athletic Competitive Identity (ACI) questionnaire. This questionnaire is based on the Athletic Identity Measurement Scale (AIMS) (Lochbaum et al., 2022) with some extra statements about competitive behavior. In the small study, they detected *g* values between 1.55 and 1.95 between the groups, which means a strong effect size. There are ten statements in total with for example, 'Most people say that I am competitive when talking about sports'. Participants have to answer on a Likert scale rating from 1, *strongly disagree,* to 7, *strongly agree*. Statements 8, 9, and 10 are not from the AIMS and therefore self-created. For the whole questionnaire, see Appendix A.

Sport Spectatorship & Supporter (SSS) questionnaire

After the Athletic Competitive Identity Questionnaire, the study focused on the loyalty of supporters and whether they enjoy watching sports for exploratory purposes. This questionnaire includes nine statements about watching sports and supporting a team. For example: 'I am a proud supporter of a certain team'. The statements will be rated on a Likert scale from 1, *strongly disagree,* to 7, *strongly agree*. The goal is to see if participants are supporters and therefore have a certain loyalty to a sports team, even though they are not playing themselves, which influences the likelihood of choosing the current team. Statements 6, 7, 8, and 9 are reversed; for the whole questionnaire, see Appendix B.

The first part of the study

Vignette

After this, the participants get one of the three vignettes. The underlined text is extra in the promotion condition, and the aborted underlined text is extra in the demotion condition. They have to imagine that when they play a team sport, it is about their team, if not imagine that they play on a soccer team.

Imagine you play in the second-best team of your (sport/soccer) association. Your team is in the same division or match pool as the first team of your association. The season has nearly come to an end, with only 3 matches to play. The first team of the association has the realistic possibility of promotion to a higher division/league/match pool if they win the last matches. / Your team has the realistic possibility of demotion to a lower division/league/match pool if you lose the next games. However, the first team of the association is missing a player in a certain position. In this scenario, you play that same position, and they ask you to join them for the last 3 matches. Unfortunately, this means you will not be able to play the last 3 matches for your own team.

Loyalty questions

After the vignette, participants get a preference question on a 7-point scale, 'Which team has your preference', with 1 *strong preference for the current team* and 7 being a *strong preference for the higher team*. Then there will be follow-up questions about the difficulty of the decision that is named above with for example, 'It was difficult to answer the previous question' measured on a 7-point Likert scale, with 1 *strongly disagree* and 7 *strongly agree*. Statements 2, 3, and 4 are reversed. And the last step is to make the final decision, where they have to choose between *I would like to join the higher team* or *I would like to stay with the current team.* For all the loyalty questions, see Appendix C.

Second part of the study

In the second part of the study, the participants were told to imagine that they had chosen the higher team, and they needed to answer the next questions with this in mind.

Negative emotions/feelings questionnaire

The first part of the questionnaire is the negative emotions questionnaire. Participants get questions about what kind of emotions they experience now that they have chosen the higher team in the scenario. The questionnaire is based on the Guilt and Shame questionnaire (GSQ-8) (Hoppen et al., 2022). Their study found that in a non-clinical sample, the guilt factor had a Cronbach's alpha of .73 and the shame factor had a Cronbach's alpha of .74, which means the test is reliable. For the study, seven statements were used and rewritten so they fit the study, for example: 'I would feel embarrassed'. Every statement is rated on a 7-point Likert scale from 1, *strongly disagree,* to 7, *strongly agree*. for the whole negative emotion questionnaire, see Appendix D.

The second part of the questionnaire is called negative feelings, which consists of statements based on negative feelings more constructed in the situation where the participant is in. The questionnaire is based on the Perpetration-Induced Distress Scale (PIDS) (Steinmetz et al., 2019). The Cronbach's alpha for shame is .98, and the Cronbach's alpha for guilt is .89, which means it is reliable. There are 9 statements in total, for example 'I wish I could change the decision of choosing for the higher team' with a 7-point Likert scale of 1 *strongly disagree* to 7 *strongly agree*. The first three statements are rewritten to fit the study; the rest of the statements were self-created. Statements 4, 5, 6, and 7 measure positive emotions, so they are reversed statements. For the whole negative feelings questionnaire, see Appendix E.

Manipulation check

At the end of the study, there is a manipulation check with the question: 'Think back to the scenario at the beginning of the study, something was said about what?' The answer options

were *promotion of the higher team to a higher league*, *demotion of the current team to a lower league,* and *neither scenario was mentioned.* The study ends with a debriefing.

Statistical analysis

Before collecting data, the necessary sample size for this study is determined using G*Power 3.1.9.7 software. Subsequently, statistical analysis is conducted using IBM SPSS (version 26). The first hypothesis: Participants in the demotion condition will be more likely to prefer remaining with their current team rather than moving to a higher team, compared to those in the promotion and control conditions. The second hypothesis: Participants in the promotion condition will be more likely to prefer joining the higher team rather than staying with their current team, compared to those in the demotion and control conditions. The fourth hypothesis: When participants imagine choosing the higher team, those in the demotion condition will experience more negative emotions/feelings compared to participants in the promotion and control conditions. when participants are forced to choose the higher team, participants in the demotion conditions feel more negative emotions in comparison with participants in the promotion and control conditions. The fifth hypothesis: When participants imagine choosing the higher team, those in the promotion condition will experience fewer negative emotions/feelings compared to participants in the demotion and control conditions. All these hypotheses will be measured with a one-way ANOVA.

The third hypothesis concerns the influence of the covariate: individuals with a stronger athletic competitive identity will show a greater preference for the higher team over the current team, compared to individuals with a weaker athletic competitive identity, and the sixth hypothesis concerns the influence of the covariate: when participants imagine choosing the higher team, those with a stronger athletic competitive identity will experience fewer negative emotions/feelings compared to those with a weaker athletic competitive identity. Both hypotheses

will be measured with an ANCOVA.

I started with 240 participants. I did a list-wise deletion of 26 participants because they did not fill in the questionnaire to the point where they were randomly assigned to one of the three conditions, and therefore did not have a manipulation, which resulted in a total of 214 participants. Then I deleted list-wise, 13 participants because they filled in the questionnaire in under 2 minutes, which is questionable if they made an effort to read the question and answer it seriously, resulting in a total of 201 participants. There were no outliers detected; this was controlled by looking for Z-scores that differentiated 3 SD of the mean.

Different analyses require different assumptions to be met; otherwise, the analysis cannot be validly conducted. For the ANOVA, randomization of conditions was ensured by Qualtrics, resulting in approximately equal numbers of participants across conditions. The variables were normally distributed, as indicated by the Q-Q plots presented in the Appendix. Although the Levene's test for homogeneity of variances was significant, typically indicating a violation of this assumption, the analysis remains robust due to the large and approximately equal group sizes.

The ANCOVA has the same assumptions as the ANOVA, and we assume that the covariate ACI is linearly related to the dependent variables (preference, negative emotions/feelings).

Pearson correlations were also calculated to examine the relationship between the variables of all scales, see Figure 2. The assumptions of homoscedasticity and normality were checked, and all variables have an interval scale.

For the Chi-square test, the assumptions included independent observations, ensured by having participants assigned to only one condition and choosing either the higher participants assigned to only one condition and choosing either the higher or current team, but not both; therefore, this assumption was not violated. Both variables are categorical (promotion, demotion,

or control condition) and (choosing the higher or staying with the current team). Finally, the assumption of sufficient expected cell frequencies was met.

Results

This study used IBM SPSS (version 26) for statistical analysis. Demographic information: All the participants were randomly divided into different conditions: promotion (n = 66), demotion (n = 72), and control (n = 63). The study was administered in both English and Dutch to ensure accessibility for both Dutch and international students participating in the online survey. Of the total sample of (n = 201), 56 participants completed the study in English, suggesting they are international students, while 145 participants completed the study in Dutch, suggesting they are Dutch students. Of the 201 participants, 149 have participated in team sports, and 51 have never participated in team sports. Participants who have played a team sport scored significantly higher on ACI (M = 3.89) than participants who have never played a team sport (M = 2.96) ($F(198,1) = 26.17$, $p < .001$, $\eta^2 = .12$).

Table 1

Descriptive statistics of the scales

	M	SD*	Minimum	Maximum	N	Cronbach's α
Preference**	3.14	1.85	1.00	7.00	200	0.760
ACI***	3.65	1.18	1.00	6.80	201	0.895
Neg Feelings	3.86	1.01	1.00	7.00	200	0.840
Neg Emotions	3.70	1.32	1.00	7.00	200	0.909
Difficulty scale	3.78	1.17	1.40	6.25	200	0.760
SSS****	4.05	1.52	1.11	7.00	201	0.928

Note. * SD = Standard Deviation

** Level of preference for the higher team

*** Athletic Competitive Identity

**** Sport Spectatorship & Supporter (SSS)

Table 2

Correlation Matrix

	ACI	SSS	Preference	Difficulty	Negative Emotions	Negative Feelings
ACI	-					
SSS	.48**	-				
Preference	.12	.16*	-			
Difficulty	.13	.08	.36**	-		
Negative Emotions	.02	-.11	-.51**	-.06	-	
Negative Feelings	-.12	-.21**	-.70*	-.27**	0.7**	-

Note. * $p < .05$

** $p < .01$

The first hypothesis: Participants in the demotion condition will be more likely to prefer remaining with their current team rather than moving to a higher team, compared to those in the promotion and control conditions. The second hypothesis suggests that participants in the promotion condition will be more likely to prefer joining the higher team rather than staying with their current team, compared to those in the demotion and control conditions. Both hypotheses are tested using the same analytical approach.

Team preference is assessed using two variables. The first is a 7-point scale measuring participants' preference between the current and higher team, where 1 indicates a strong

preference for the current team and 7 indicates a strong preference for the higher team. An ANOVA is conducted with the conditions (promotion, demotion, and control) as the independent variable and team preference as the dependent variable. The analysis reveals a statistically significant effect of condition on team preference ($F(2,197) = 9,17$, $p < .001$, $\eta^2 = 0.09$).

Table 3

Preference for the higher team, dependent on the different conditions

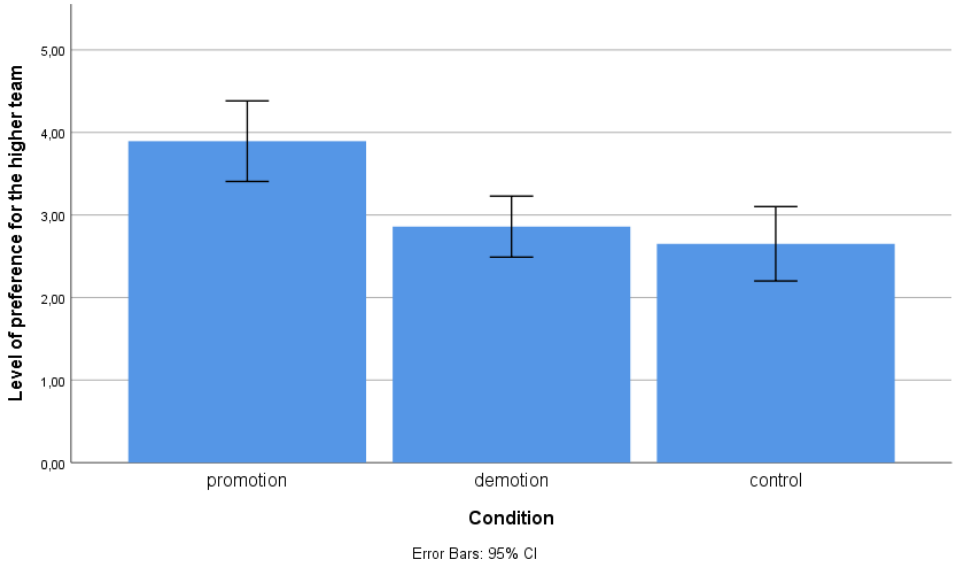
Condition	M	SD
Promotion	3.89	1.99
Demotion	2.86	1.56
Control	2.65	1.79

Note. * SD = Standard Deviation

Individuals in the promotion condition have a significantly stronger preference for the higher team than the control condition ($B = 1.21$, $SE = .31$, $t(197) = 3.89$, $p < .001$, $CI[.60, 1.82]$, $\eta^2 = .07$) and the demotion condition ($B = .992$, $SE = .30$, $t(197) = 3.36$, $p = .001$, $CI[.41, 1.58]$, $\eta^2 = .08$). The control and demotion conditions do not significantly differ from each other ($B = 0.21$, $SE = .30$, $t(197) = .70$, $p = 484$, $CI[-.39, .81]$, $\eta^2 < .01$), see Figure 1 for a clearer view.

Figure 1

The influence of the different conditions on the level of preference for the higher team.



Not only is preference measured, but the final decision is also made, where participants have to choose between the higher and the current team. A Pearson Chi-Square was conducted to see if the different conditions affected the decision of whether they chose the higher or current team. This resulted in a significant result $\chi^2(2, N = 200) = 10.59$, $p = .005$. Post-hoc analysis with standardized residuals shows that the promotion condition chooses significantly more for the higher team than the demotion or control condition ($z = 2.1$, $p < .05$). Both analyses supported the second hypothesis that states that the promotion condition significantly differs from the demotion and control conditions. However, it did not support the first hypothesis, because there was no significant difference between the demotion and control conditions. See Table 4 for the Cross-table.

Table 4

Cross-table of the different conditions and the decision of choosing the higher or current team

	Higher team	Current team	Total

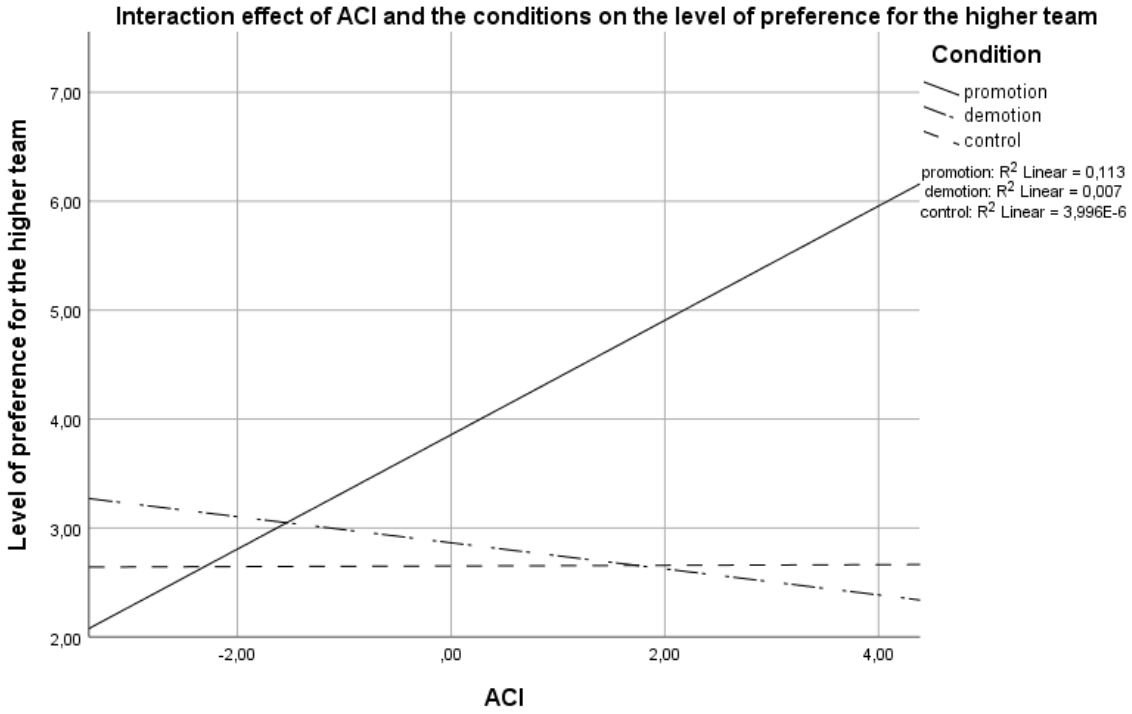
Promotion	33	33	66
Demotion	20	51	71
Control	16	47	63
Total	69	131	200

The third hypothesis examines the role of Athletic Competitive Identity (ACI) as a covariate. This study suggests that individuals with a stronger athletic competitive identity will show a greater preference for the higher team over the current team, compared to individuals with a weaker athletic competitive identity. There is no significant effect of the ACI on the preference for one of the teams ($F(196,1) = 7.49$, $p = .125$, $\eta^2 = .01$).

For exploratory purposes, this study also investigated the interaction between the different conditions and ACI on negative emotions. This analysis revealed a significant interaction effect. ($F(2, 197) = 3.72$, $p = .026$, $\eta^2 = .04$). Specifically, in the promotion condition, ACI significantly interacted with this condition in comparison with the control condition ($B = 0.52$, $SE = 0.25$, $t(197) = 2.06$, $p = .040$, $CI[0.023, 1.021]$, $\eta^2 = .021$). Additionally, the promotion condition showed a significant interaction effect when compared to the demotion condition ($B = .65$, $SE = .25$, $t(197) = 2.57$, $p = .012$, $CI[.15, 1.14]$, $\eta^2 = .05$). The demotion did not significantly differ from the control condition in its interaction with ACI ($B = -.12$, $SE = .27$, $t(197) = -, 46$, $p = 646$, $CI[-.65, .40]$, $\eta^2 < .01$). These findings indicate that participants in the promotion condition who also report higher levels of athletic competitive identity are more likely to prefer the higher-status team than those with similarly high ACI scores in the demotion or control conditions. See Figure 2 for the interaction effect.

Figure 2

Interaction effect of ACI and the conditions on the level of preference for the higher team.



The fourth hypothesis proposed that when participants are told that they have chosen the higher team, participants in the demotion conditions feel more negative emotions/feelings in comparison with participants in the promotion and control conditions. And the fifth hypothesis proposed that under the same circumstances, participants in the promotion condition would report fewer negative emotions/feelings than those in the demotion and control conditions.

When looking at the negative emotions, there was no significant difference between the different conditions ($F(2,194) = 1.95$, $p = 0.145$, $\eta^2 = .02$). These results do not support the fourth of fifth hypothesis.

Table 5

Scores on negative emotions, based on the different conditions.

Condition	M	SD

Promotion	3.49	1.40
Demotion	3.93	1.21
Control	3.67	1.32

Note. * SD = Standard Deviation

When looking at negative feelings, there was a significant difference between the different conditions ($F(2,194) = 5.30$, $p = .006$, $\eta^2 = .051$). Participants in the demotion condition experience more negative emotions than participants in the promotion condition ($B = .42$, $SE = .16$, $t(194) = -2.55$, $p = .012$, $CI[-.74, -.09]$, $\eta^2 = .05$). Participants in de control condition experiences more negative emotions than participants in the promotion condition ($B = .52$, $SE = .17$, $t(194) = -2.98$, $p = .003$, $CI[-.86, -.18]$, $\eta^2 = .04$). There was no significant difference between the demotion and control condition ($B = -.07$, $SE = .17$, $t(194) = -.43$, $p = .669$, $CI[-.41, .26]$, $\eta^2 < .01$), see Figure 3. This result supported the fifth hypothesis, but not the fourth, because there is no significant difference between the demotion and control conditions.

Table 6

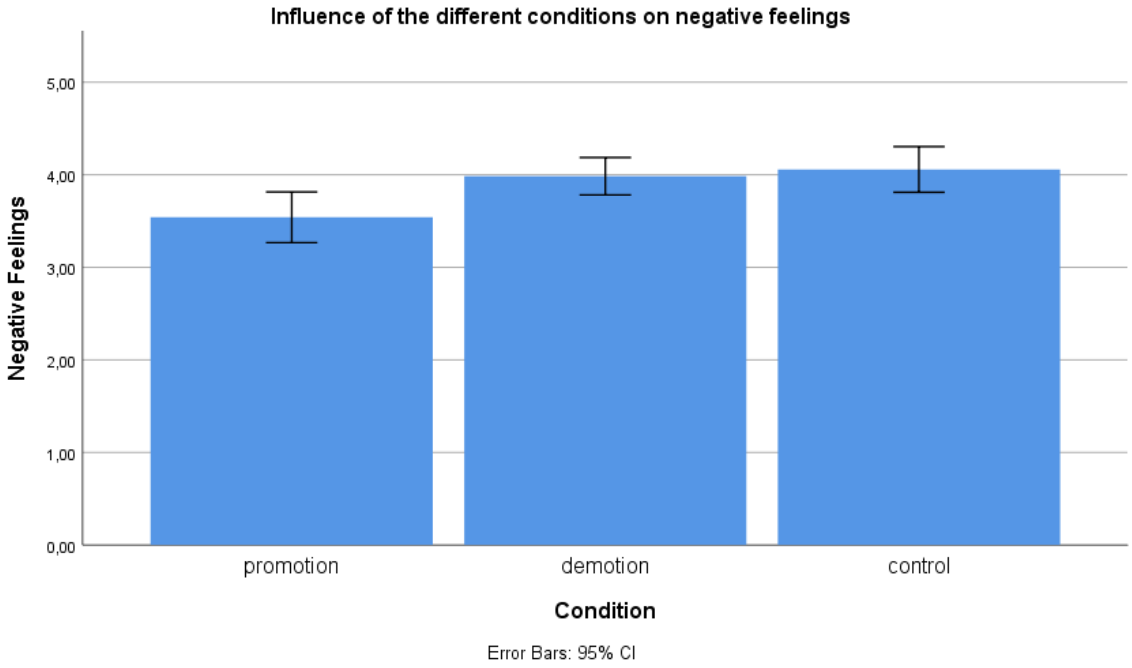
Scores on negative feelings, based on the different conditions.

Condition	M	SD
Promotion	3.54	1.11
Demotion	3.98	0.85
Control	4.06	0.98

Note. * SD = Standard Deviation

Figure 3

Influence of the different conditions on negative feelings



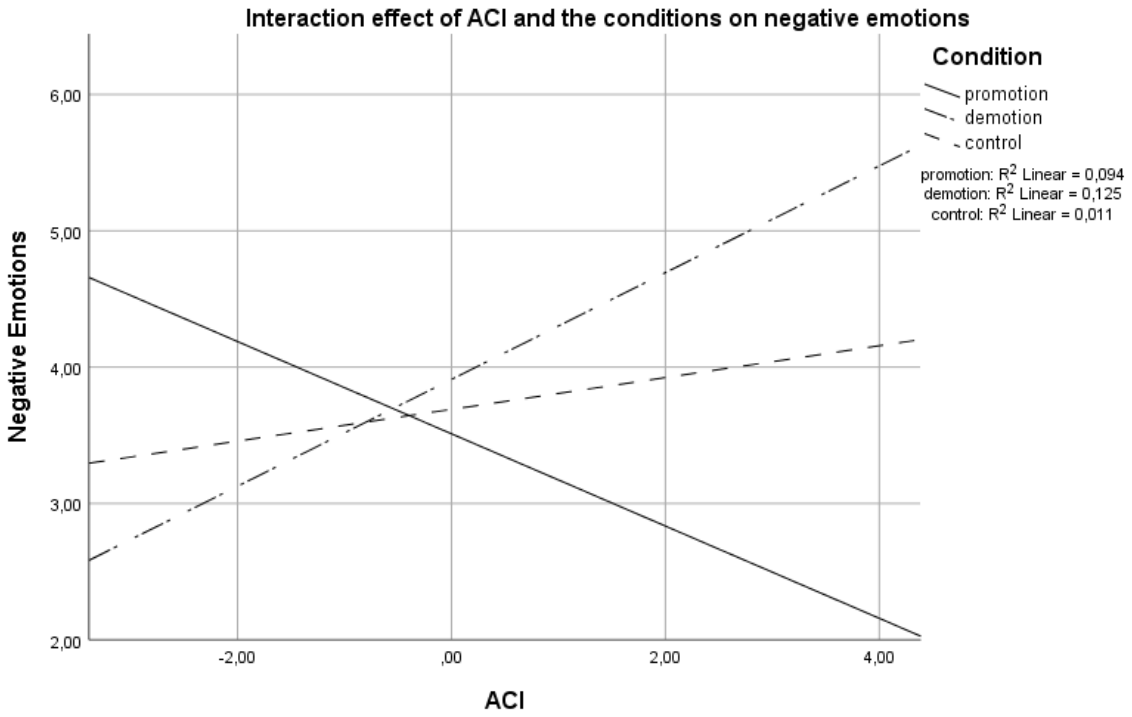
The sixth hypothesis examined the influence of ACI as a covariate. It was predicted that, when participants imagine choosing the higher team, those with a stronger athletic competitive identity would experience fewer negative emotions/feelings compared to those with a weaker athletic competitive identity. There was no significant effect for ACI on negative emotions ($F(196,1) = .12$, $p = .732$, $\eta^2 < .01$).

For exploratory purposes, the interaction between ACI and the different conditions was examined. For negative emotions there is a significant interaction effect ($F(2, 194) = 8.06$, $p < .001$, $\eta^2 = .04$). Specifically, a significant interaction effect between the promotion condition and the control condition ($B = -.46$, $SE = .14$, $t(194) = -2.48$, $p = .014$, $CI[-.817, -.093]$, $\eta^2 = .03$), as well as between the promotion condition and demotion condition ($B = -.73$, $SE = .182$, $t(194) = -4.01$, $p < .001$ $CI[-1.09, -.37]$, $\eta^2 = .06$). There was no significant difference between the demotion condition and control condition ($B = .28$, $SE = .19$, $t(194) = 1.42$, $p = .157$, $CI[-.11, .66]$, $\eta^2 = 0.01$). This reflected that when individuals scored high on ACI in the promotion

condition, the negative emotions decreased in comparison with the control and demotion conditions, where the negative emotions increased if they scored higher on ACI, see Figure 4.

Figure 4

Interaction effect of ACI and the conditions on negative emotions

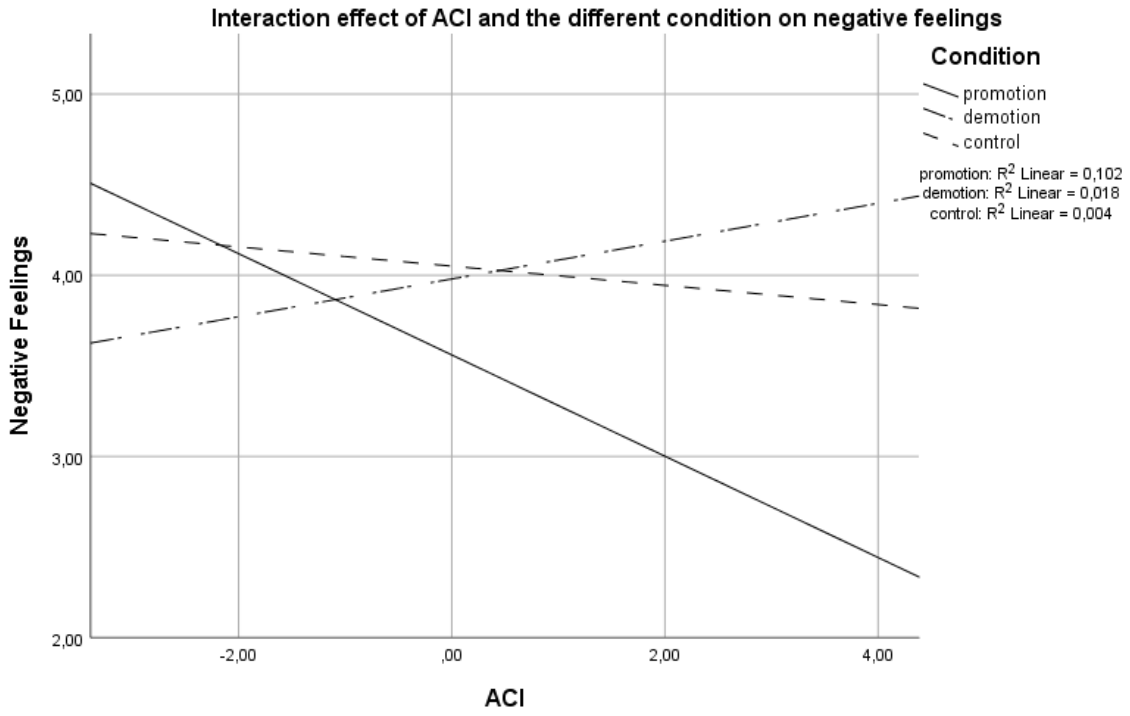


For the negative feelings, there is no significant effect of ACI on negative feelings (F(196,1) = 2.40, p = .123, η^2 = .01). There is also a significant interaction effect (F(2, 194) = 3.79, p = .024, η^2 = .04). There is a significant interaction effect between the promotion and demotion condition (B = -38, SE = .14, t(194) = -2.74, p = .007, CI[-.66, -.107], η^2 = .053). There is no significant interaction effect difference between promotion and condition (B = -.23, SE = .14, t(194) = -1.62, p = .107, CI[-26, .15], η^2 < .01). And there is also not a significant difference between the control and demotion condition (B = .16, SE = .15, t(194) = 1.07, p = .288, CI[-.13, .45], η^2 < .01). This means that when individuals score high on ACI, in the promotion condition find a decrease in negative feelings, in comparison with the demotion condition where

individuals experience an increase in negative emotions when scoring high on ACI: see Figure 5.

Figure 5

Interaction effect of ACI on the different conditions on negative feelings



As part of further exploratory purposes, additional tests were conducted to examine whether participants' initial team preference and decision in the first part of the study influenced their emotional responses in the second part, where they were informed they had chosen the higher team. There is a significant negative correlation between the preference and negative emotions (r = -.51, p < .001), so participants with a stronger preference for the higher team experience less negative emotions than individuals with a stronger preference for the current team. There is also a significant negative correlation between preference and negative feelings (r = -.70, p < .001), suggesting that a stronger preference for the higher team was associated with less negative feelings in comparison to participants with a stronger preference for the current team (see Table 2).

In addition to preference, the actual decision participants made, whether to choose the

current or the higher team, also significantly influenced emotional outcomes. Participants who had chosen the current team experience significantly more negative emotions in comparison with participants who had chosen the higher team ($F(1,198) = 68.93$, $p < .001$, $\eta^2 = .258$). Participants who chose the current team also experienced more negative feelings in comparison with participants who chose the higher team ($F(1,198) = 142.56$, $p < .001$, $\eta^2 = .42$).

Table 7

Scores of negative emotions and negative feelings based on the decision

Dependent variable	Decision	Mean	SD
Negative emotions	Higher team	2.78	1.01
Negative emotions	Current team	4.19	1.20
Negative feelings	Higher team	2.97	0.70
Negative feelings	Current team	4.33	1.01

Note. * SD = Standard Deviation

In the first phase of the study, participants had to decide to choose between the higher team and the lower team. There is a significant interaction effect between this decision and the condition in which they are, influencing the negative feelings ($F(5,194) = 31.43$, $p < .001$, $\eta^2 = .45$).

Table 8

Scores on negative feelings based on the condition and the decision

Condition	Decision	Mean	SD	N
Promotion	Higher team	2.76	0.76	33
Promotion	Current team	4.32	0.83	33

Demotion	Higher team	3.36	0.61	20
Demotion	Current team	4.23	0.81	51
Control	Higher team	2.89	0.43	16
Control	Current team	4.33	0.77	47

Note. * SD = Standard Deviation

However, when splitting the dataset based on participants' decision for the higher or current team, there was only a significant difference between the different conditions in negative feeling when focusing on participants who choose the higher team ($F(2, 66) = 5.31$, $p = .007$, $\eta^2 = .14$). Post hoc comparisons revealed that participants in the demotion condition reported significantly more negative feelings than in the promotion condition (*M difference* = .60, *SE* = .19, $p = .002$, *CI*[0.23, 0.97]), as well as those in the control condition (*M difference* = .47, *SE* = .22, $p = .035$, *CI*[.03, .91]). The promotion and control conditions do not differ significantly from each other (*M difference* = .12, *SE* = .20, $p = .536$, *CI*[-.52, .27]).

The study also measured the variable Sport Spectatorship & Supporter (SSS) for exploratory purposes. Higher scores on these variables mean greater enjoyment of watching sports and a stronger tendency to support teams. A significant negative correlation was found between SSS and negative feelings ($r = -.21$, $p < .001$). Which means that when participants enjoy watching sports and being a supporter, they experience weaker negative feelings in comparison with individuals who don't enjoy watching sports and being a supporter. The different conditions still have a significant effect on negative feelings, however, the explained variance is smaller ($F(169,2) = 4.15$, $p = .017$, $\eta^2 = .04$). The covariate SSS is also significant ($F(196,1) = 6.56$, $p = .011$, $\eta^2 = .03$). This means that SSS explains a part of the variance, however, it does not cancel out the effect of the different conditions.

Discussion

This research investigates the permeability paradox, a phenomenon referring to loyalty conflict that arises when individuals are presented with opportunities for upward social mobility within team sports. The research question is as follows: How does the potential for promotion or demotion influence loyalty conflict, and how is this relationship potentially influenced by athletic competitive identity?

The question was answered by means of several hypotheses. The first hypothesis proposes that participants in the demotion condition will be more likely to prefer remaining with their current team rather than moving to a higher team, compared to those in the promotion and control conditions. The findings provide partial support for this hypothesis. Participants in the demotion condition were significantly more loyal to their current team than those in the promotion condition; however, not significantly more than participants in the control condition. This suggests that participants without any contextual information (as in the control condition) are loyal to their current team, and therefore, the threat of demotion is not needed. This finding supports the idea of the permeability paradox: although participants had the opportunity to move up to the higher team, most of them did not take advantage of it (Spears & Suhlmann, 2017).

The second hypothesis suggests that participants in the promotion condition will be more likely to prefer joining the higher team rather than staying with their current team compared to those in the demotion and control conditions. The data supported this hypothesis; participants in the promotion conditions had a stronger preference for the higher team and were more likely to choose the higher team in the final decision.

Several factors might explain this outcome. One possible explanation is strategic self-presentation: by contributing to the success of the higher team, individuals may seek to demonstrate their value as a team member, thereby increasing their chances of getting a fixed

place in the team next season. However, this increased chance of getting a fixed place was not explicitly mentioned in the study's vignette; it may be the reasoning for some participants. This is in line with the findings of Spears and Suhlmann (2017), where there was more mobility when there is hope for joining the group in the future.

Another explanation is that the decision may be motivated not only by personal or team-specific benefits but also by a desire to support the overall success of the sports club. Choosing the higher team could be seen as contributing to the club's broader achievements, especially if that means promotion increases the club's prestige. Framing the decision this way may help participants rationalize leaving their current team and not damaging their view of themselves as a good team member, and therefore not experience cognitive dissonance (Steele, 1988). Moreover, participating in matches that may lead to promotion can be exciting. Especially if the last three matches have little impact on the position of your current team.

The third hypothesis concerns the influence of the covariate: individuals with a stronger athletic competitive identity will show a greater preference for the higher team over the current team, compared to individuals with a weaker athletic competitive identity. Although ACI was not significant when used as a covariate, an interaction effect analysis was possible. The result indicated that in the promotion condition, participants with a stronger athletic competitive identity were more likely to prefer the higher-status team (see Figure 3). Competitive drive is measured with the ACI questionnaire, indicating that an individual is driven by winning and becoming better at their sport. This makes the higher team in the promotion condition a logical decision (Ronkainen et al., 2016).

The graph (see figure 2) also showed that in the control condition, participants' preferences remained relatively stable regardless of ACI levels, suggesting that ACI did not significantly influence their decision. In the demotion condition, participants with a stronger ACI

showed a slight decrease in preference for the higher team, suggesting that a stronger athletic identity in this condition may be linked to increased loyalty, and being a good athlete does not abandon their current team when they are in such a crucial situation. However, due to the non-significant differences between the demotion and control conditions, this interpretation remains speculative and not fully supported by the data.

This study focused only on when participants are more likely to choose the higher team, but not why they make the choice. The possible explanations discussed above are grounded in logical assumptions and prior research. Future research should explore the underlying motivations and thought processes that influence such decisions. Understanding why some individuals do or do not take the opportunity for upward social mobility in team sports would provide a more comprehensive view of loyalty, athletic identity, and decision-making in team sports.

The fourth hypothesis is that when participants imagine choosing the higher team, those in the demotion condition will experience more negative emotions/feelings compared to participants in the promotion and control conditions. No significant effect was found for negative emotions; however, a significant effect was found for negative feelings. A possible explanation is that the negative feelings measurement consists of more scenario-specific statements, making it easier for participants to project themselves into the imagined situation and reflect on how they would feel if they chose the higher team. The data provided partial evidence for this hypothesis; there was a significant difference in negative feelings between the promotion and demotion conditions, but not between the demotion and control conditions. As mentioned in the first hypothesis, this may be attributed to a strong sense of loyalty among participants in the control condition, and therefore did not differ in negative feelings.

The fifth hypothesis suggests that when participants imagine choosing the higher team,

those in the promotion condition will experience fewer negative emotions/feelings compared to participants in the demotion and control conditions. The data supported the hypothesis; participants in the promotion condition reported less negative feelings compared with the other conditions. Several factors may account for this result. First, there may have been a pre-existing preference for the higher team among participants. Indeed, approximately half of the participants ultimately chose the higher team. The existing preference for the higher team led to fewer negative feelings in the second part of the study.

This theory is also backed up by the strong negative correlations between preference for the higher team and negative emotions/feelings. This means, the stronger preference for the higher team, the fewer negative emotions and feelings participants reported when imagining having chosen that team. Additionally, participants who ultimately selected the higher team reported significantly fewer negative emotions and feelings than those who chose to remain with their current team.

An alternative explanation concerns the role of cognitive dissonance (Steele, 1988). Participants who chose to remain with their current team may have found it easier to resolve dissonance through justifications such as: “I will help my sport club when I am participating in the last matches of the higher team,” or “If others in my team had the same opportunity, they might also choose to participate in the higher team, so my choice is understandable.” In contrast, for participants in the demotion or control conditions, such rationalizations may have been less accessible, making the decision to join the higher team feel more like an act of betrayal and disloyalty, potentially contributing to higher levels of negative feelings.

The sixth hypothesis concerns the influence of the covariate: when participants imagine choosing the higher team, those with a stronger athletic competitive identity will experience fewer negative emotions/feelings compared to those with a weaker athletic competitive identity.

Although it was not significant when it was used as a covariate, in the data, there was a possibility to conduct an interaction effect.

A significant interaction was found between ACI and the different conditions on negative emotions. Participants with a strong athletic competitive identity in the promotion condition reported fewer negative emotions compared to those in the demotion and control conditions. In contrast, in the demotion and control conditions, a stronger athletic competitive identity was associated with increased negative emotions. In the graph (see Figure 4), it can be seen that the demotion condition has a steeper slope than the control condition; however, this difference between slopes was not statistically significant.

A similar interaction effect was observed for negative feelings. Participants in the promotion condition with higher levels of athletic competitive identity were associated with a decrease in negative feelings, in comparison with the demotion condition, where there was an increase in negative feelings for high levels of athletic competitive identity. Neither of these conditions differs significantly from the control condition in terms of their interaction with ACI (see Figure 5).

These findings suggest that athletic competitive identity may manifest in different motivational forms depending on the context. In the promotion condition, it may reflect a focus on personal development and becoming better at the sport, thereby reducing negative emotions and feelings when imagining switching to the higher team. In contrast, in the demotion condition, athletic competitive identity may emphasize what a good athlete should do and therefore loyalty, team commitment, increased feeling of guilt, and disloyalty when leaving the team in such a critical situation.

For exploratory purposes, this study examined the influence of the different conditions and participants' final decisions on reported negative feelings. Among participants who chose the

higher team over the current team, those in the demotion condition reported significantly more negative feelings than those in the promotion or control condition. This is an interesting finding, despite voluntarily choosing the higher team, participants in the demotion condition nevertheless experienced more negative feelings. One possible explanation is that the decision to leave the current team, particularly at a critical moment, evoked feelings of guilt, shame, and not being proud of their decision. This aligns with the concept of the permeability paradox, which describes the internal loyalty conflict that arises when an individual wants to seize a better opportunity (joining the higher team) but feels discomfort about leaving their current group (current team) behind.

A possible explanation for why the significant difference was observed only among participants who chose the higher team is that these individuals is that these individuals actually left their current team and did not have to imagine choosing the higher team. As a result, the loyalty conflict felt more real and intense, which could explain why there were significant differences between the demotion condition and the promotion and control conditions.

While the study identifies the conditions under which individuals experience greater negative emotions, it does not directly assess why these feelings emerge. The explanations offered here are based on logical interpretation and are consistent with existing literature, but they remain speculative. Future research is therefore needed to explore the underlying reasons behind the increased negative emotions in certain contexts, particularly to understand the psychological mechanisms that drive these emotional responses.

Not only when making the decision lead to negative emotions and feelings also when individuals are moved to a higher status group, it can have negative consequences. In a previous study (Haslam et al., 2021), they examined the negative influences of a life-changing event (going to university) and how this influences the social identity and health. Social mobility makes

it possible for people from all different backgrounds are able to study at university. Therefore also students with a lower SES, whose parents did not go to university. Individuals from low SES have fewer social resources to support this transition and struggle to find common ground with the other students, which results in a lower social identity with the other students and has a negative influence on their mental health.

This study has nothing to do with university or SES, but it could give a possible explanation for the negative consequences of upward social mobility. Having less support for your decision, by teammates who did not approve your decision, and therefore makes you uneasy with the decision, makes the transition harder, and you may not identify easily with your new team if you are coming from a lower team. For future research, it is interesting to see what the long-term effects will be for upward social mobility in team sports.

For exploratory purposes, an extra analysis was conducted using the Sport Spectatorship & Supporter (SSS) as a covariate. In addition to the effects of the experimental conditions, SSS accounted for a portion of the variance in negative feelings. Participants with higher SSS scores reported lower levels of negative feelings. One possible explanation is that individuals who identify strongly as supporters or spectators of competitive sports may view advancing to a higher level of sport more positively. This finding contrasts with the public reaction to the real-world example of Steven Berghuis, referenced in the introduction (RTL Nieuws, 2021), where supporters expressed strong negative reactions to his transfer to a rival club with greater potential. However, an important distinction is that in the current study, both teams were part of the same club, which may have reduced the perceived betrayal or loyalty conflict. To see the reasoning of this phenomenon, further research should investigate how the role of sport spectatorship and supporter identity influences emotional responses to team transitions, particularly in contexts where loyalty and identity are at stake.

Limitations

There are several limitations to this study. First, the sample consisted exclusively of first-year psychology students from the University of Groningen. As a result, the sample was relatively homogeneous in terms of age and educational background, and thus not representative of the general population. Future research should aim to include a more diverse sample drawn from various segments of society to examine whether the findings of this study generalize to broader populations or show different results.

A second limitation concerns the manipulation check, which was included to assess whether participants correctly identified the experimental condition they were assigned. When responses to the manipulation check were compared to participants' actual conditions, only 75% responded correctly. This implies that approximately 50 participants should be excluded from the study because they failed the manipulation check. However, due to the concerns about statistical power, they were not excluded from the study. It is possible that participants knew which condition they were in but still answered the manipulation check incorrectly, so this didn't impact the study's results. Or another plausible explanation for the manipulation failure is the confusion between the promotion of the individual player to the higher team, and the promotion of the higher team itself to a higher match pool/league. While all conditions included the possibility of an individual moving to the higher team, only the promotion condition included the additional element of the team being promoted to a higher pool/league. The subtle distinction between these two forms of promotion may have led to participants' misinterpretation of the manipulation question. However, the percentage of participants who failed the manipulation check is not unusual.

Another limitation is that the study was based on hypothetical scenarios. Participants were asked to imagine themselves in the situation described in the vignette, meaning their decisions

had no real-life consequences. This introduces the potential influence of social desirability bias, wherein participants might report behavior they believe to be socially acceptable rather than what they would actually do. For example, a participant may indicate they would remain loyal to their current team, to be seen as a good teammate, even though in a real-life situation, they might choose to move to the higher-level team. This gap between imagined and actual behavior should be considered in the interpretation of the results.

Future research

For future research, it would be valuable to explore potential cultural differences in decision-making within similar scenarios. Although this study was conducted in the Netherlands and included in the Netherlands and included some international students, the majority were Dutch. As such, most participants were embedded in an individualistic cultural context, where the SELF stands on their own and is determined by independence and individual achievement. In contrast, collectivistic cultures emphasize interdependence, where the SELF is defined through relationships and group affiliations. These cultural orientations can result in significant differences in cognition, emotion, and motivation. (Markus & Kitayama, 1991).

Furthermore, research has shown that individualistic cultures are generally more focused on approach goals, which center on achieving positive outcomes, whereas collectivistic cultures tend to focus on avoidance goals, which center on preventing negative outcomes and maintaining social harmony (Elliot et al., 2001).

In the context of this study, choosing the higher team is closely associated with personal achievement and ambition, values that are more strongly endorsed in individualistic cultures. As such, this decision may be perceived as more acceptable or even desirable in individualistic societies. The promotion condition, in particular, aligns with approach-oriented motivation, which is more useful for individualistic cultures. In contrast, collectivistic cultures may place

greater importance on maintaining group cohesion and fulfilling social obligations. In this context, staying with the current team could be perceived as the more honorable or socially appropriate choice. The act of leaving the current team, especially during a challenging moment, such as in the demotion condition, may evoke stronger feelings of guilt or disloyalty in collectivistic individuals. Additionally, the emphasis on avoidance goals in collectivistic cultures may heighten sensitivity to the potential negative social consequences of abandoning the group, thereby increasing the likelihood of choosing to remain with the current team.

Conclusion

To conclude, the findings of this study reveal that most individuals stay loyal to their current team when there is a possibility of upward social mobility; however, it depends on the context. Individuals are more likely to choose the higher team when doing so contributes to possible promotion to the higher league or match pool, compared to situations in which their current team is facing demotion or when no information about promotion or demotion is provided. A possible explanation is that the opportunity to support the higher team in achieving promotion is easier to justify when you are also helping the whole club. Moreover, the interaction with ACI further supports this interpretation. Participants with a stronger athletic competitive identity were more likely to choose the higher team in the promotion condition compared to the demotion and control conditions. This suggests that in a context that complements the potential growth of the individual, participants were more likely to choose the higher team.

When participants were asked to imagine choosing the higher team, those in the promotion condition reported fewer negative feelings compared to participants in the demotion and control conditions. One possible explanation is that, in the promotion condition, the decision to join the higher team may feel more justified, as no negative consequences are mentioned, like in the demotion condition. Helping the higher team achieve promotion can be seen as a positive

and prosocial contribution, making it easier for participants to rationalize their decision.

Additionally, the interaction effect between ACI and the different conditions revealed that higher scores on athletic competitive identity were associated decrease in negative emotions in the promotion condition compared to the demotion and control conditions. And a decrease in negative feelings in comparison with the demotion condition. This may be due to the activation of different facets of athletic competitive identity in each condition. In the promotion condition, the drive for personal growth may be more salient, aligning with the motivation to join the higher team. In contrast, in the demotion condition, the emphasis may shift toward the importance of being a good team member as part of their athletic competitive identity, and therefore being loyal to the team. The idea of abandoning the team during a critical time may increase feelings of guilt and shame, leading to increased negative emotions and feelings.

This study shows that when individuals experience a stronger loyalty conflict, it highlights the permeability paradox. However, the study does not explain why participants choose to remain loyal or pursue upward social mobility. Future research could explore these motivations more deeply, for example by examining cultural differences in decision-making.

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Appendix A

Athletic Competitive Identity (ACI) questionnaire

The study will be about sports. To see what sports means to you there are a couple of statements, please answer what is most applicable to you.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I consider myself an athlete (1)	○	○	○	○	○	○	○
I have many goals related to sport (2)	○	○	○	○	○	○	○
Most of my friends are athletes (3)	○	○	○	○	○	○	○
Sport is the most important part of my life (4)	○	○	○	○	○	○	○
I spend more time thinking about sport than anything else (5)	○	○	○	○	○	○	○
I feel bad about myself when I do poorly in sport (6)	○	○	○	○	○	○	○

I would be depressed if I were injured and could not compete in sport (7)	○	○	○	○	○	○	○
When I play a game I play to win. (8)	○	○	○	○	○	○	○
It is important for me to become better at sports (9)	○	○	○	○	○	○	○
Most people say that I am competitive when talking about sports. (10)	○	○	○	○	○	○	○

Appendix B

Sport Spectatorship & Supporter (SSS) questionnaire

Answer the following statements based on what is most applicable to you.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I like watching sports (1)	○	○	○	○	○	○	○
I like to watch sport on TV (2)	○	○	○	○	○	○	○
I am a proud supporter of a certain team. (3)	○	○	○	○	○	○	○
I try watch all the games of my favorite sports team. (4)	○	○	○	○	○	○	○
I have often watched games often live from the stands (5)	○	○	○	○	○	○	○
I follow news about my favorite sport (6)	○	○	○	○	○	○	○

I never watch sports in my free time (7)	○	○	○	○	○	○	○
I am bored when watching sports (8)	○	○	○	○	○	○	○
I find it difficult to imagine that people watch sports for pleasure. (9)	○	○	○	○	○	○	○

Appendix C

Loyalty questions

Which team has your preference?

	Strong preference for the current team (1)	Moderate preference for the current team (2)	Slight preference for the current team (3)	No preference for one of the teams (4)	Slight preference for the higher team (5)	Moderate preference for the higher team (6)	Strong preference for the higher team (7)
Which team has your preference? (1)	○	○	○	○	○	○	○

The following questions are about your answer to the previous question; "Which team has your preference?" For the statements below indicate what is most applicable for you given your preference.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
It was difficult to answer the previous question (1)	○	○	○	○	○	○	○
I am certain about my preference (2)	○	○	○	○	○	○	○
I feel relieve now that I	○	○	○	○	○	○	○

have chosen a preference. (3)							
I had no problem with forming this preference (4)	○	○	○	○	○	○	○
I had to take a moment to think about this preference (5)	○	○	○	○	○	○	○

Final decision Now if you had to make the decision, which team would you choose?

○ I would like to join the higher team (1)

○ I would like to stay with the current team (2)

Appendix D

Negative Emotions Questionnaire

Question emotion Please answer the next statements: what is most applicable to you given that you have chosen the higher team.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I would feel embarrassed (1)	○	○	○	○	○	○	○
I would feel guilty (2)	○	○	○	○	○	○	○
I would feel regret (3)	○	○	○	○	○	○	○
I would feel self-disgusted (4)	○	○	○	○	○	○	○
I would feel remorse (5)	○	○	○	○	○	○	○
I would feel humiliated (6)	○	○	○	○	○	○	○
I would feel ashamed (7)	○	○	○	○	○	○	○

Appendix E

Negative feelings questionnaire

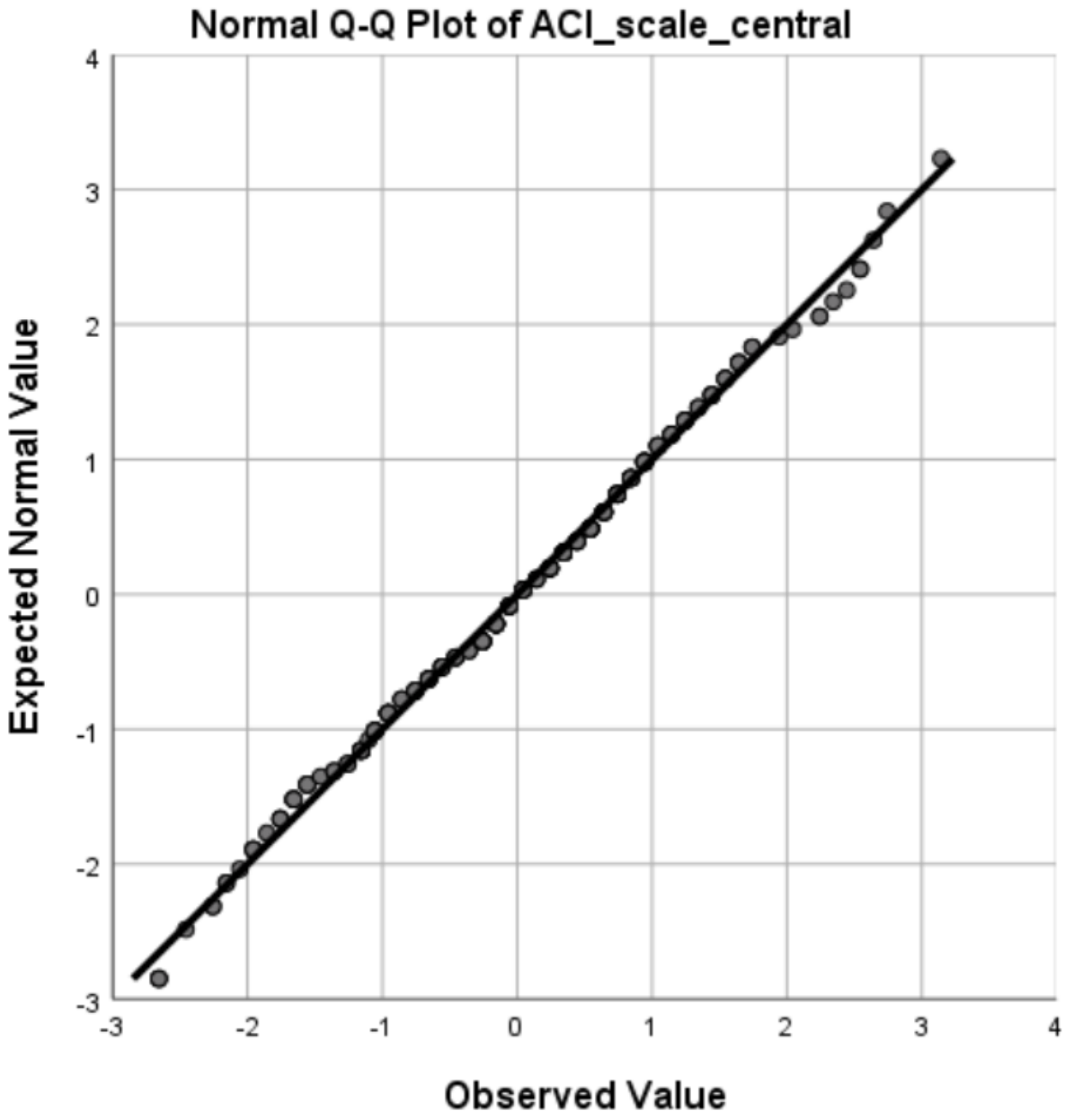
Please answer the next statements: what is most applicable to you given that you have chosen the higher team

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I would like to make up for choosing the higher team (1)	○	○	○	○	○	○	○
I believe choosing for the higher team is something bad (2)	○	○	○	○	○	○	○
I wish I chould change the decision of choosing for the higher team (3)	○	○	○	○	○	○	○
I would like to join the higher team (4)	○	○	○	○	○	○	○
I would be pleased to help the	○	○	○	○	○	○	○

higher team (5)							
I would feel proud to help the higher team (6)	○	○	○	○	○	○	○
Leaving the old team would be a good decision (7)	○	○	○	○	○	○	○
I would feel bad leaving my teammates (8)	○	○	○	○	○	○	○
I would be angry at my teammates if they made the decision that I made. (9)	○	○	○	○	○	○	○

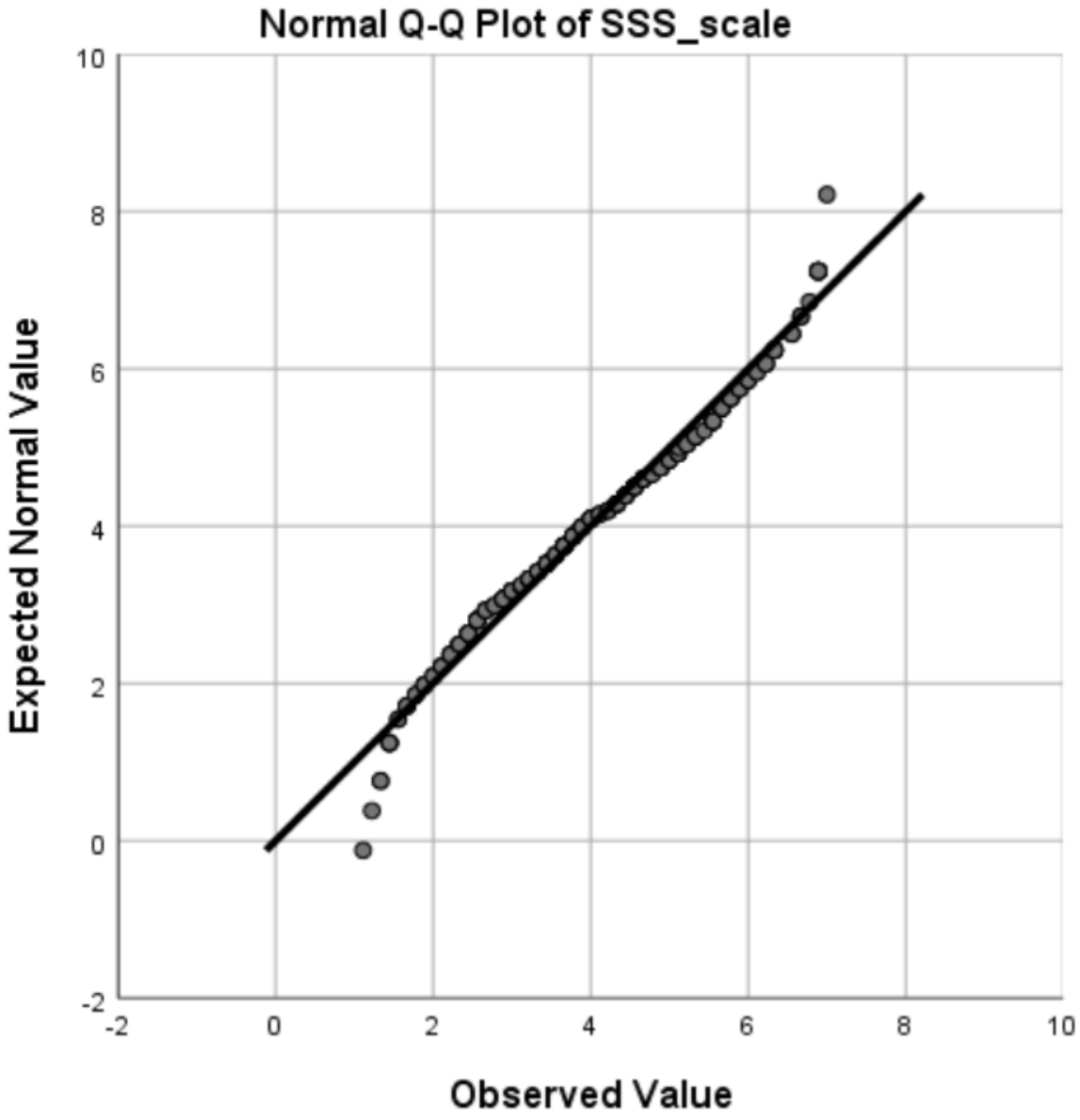
Appendix F

Q-Q plot of ACI



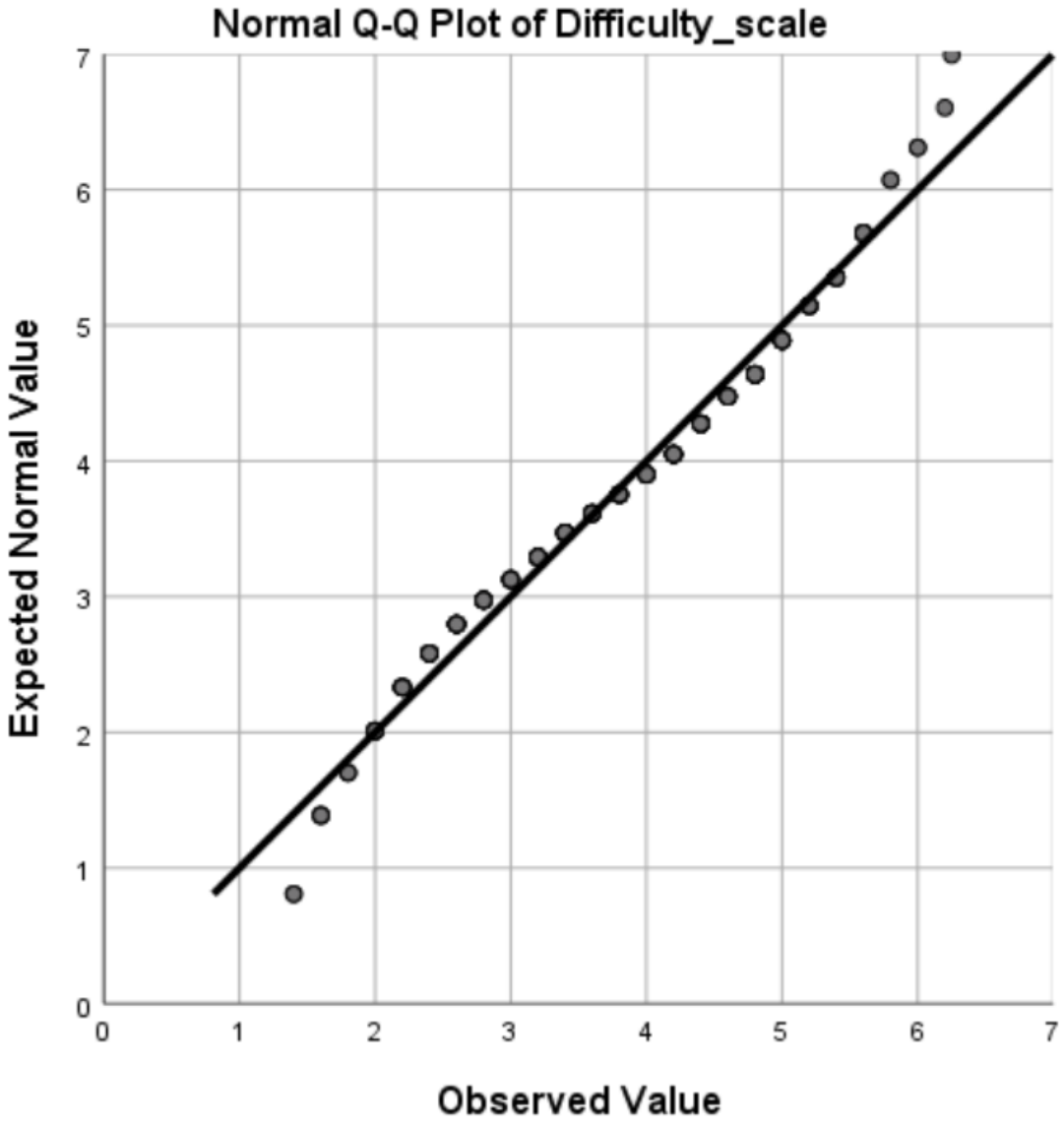
Appendix G

Q-Q plot of SSS



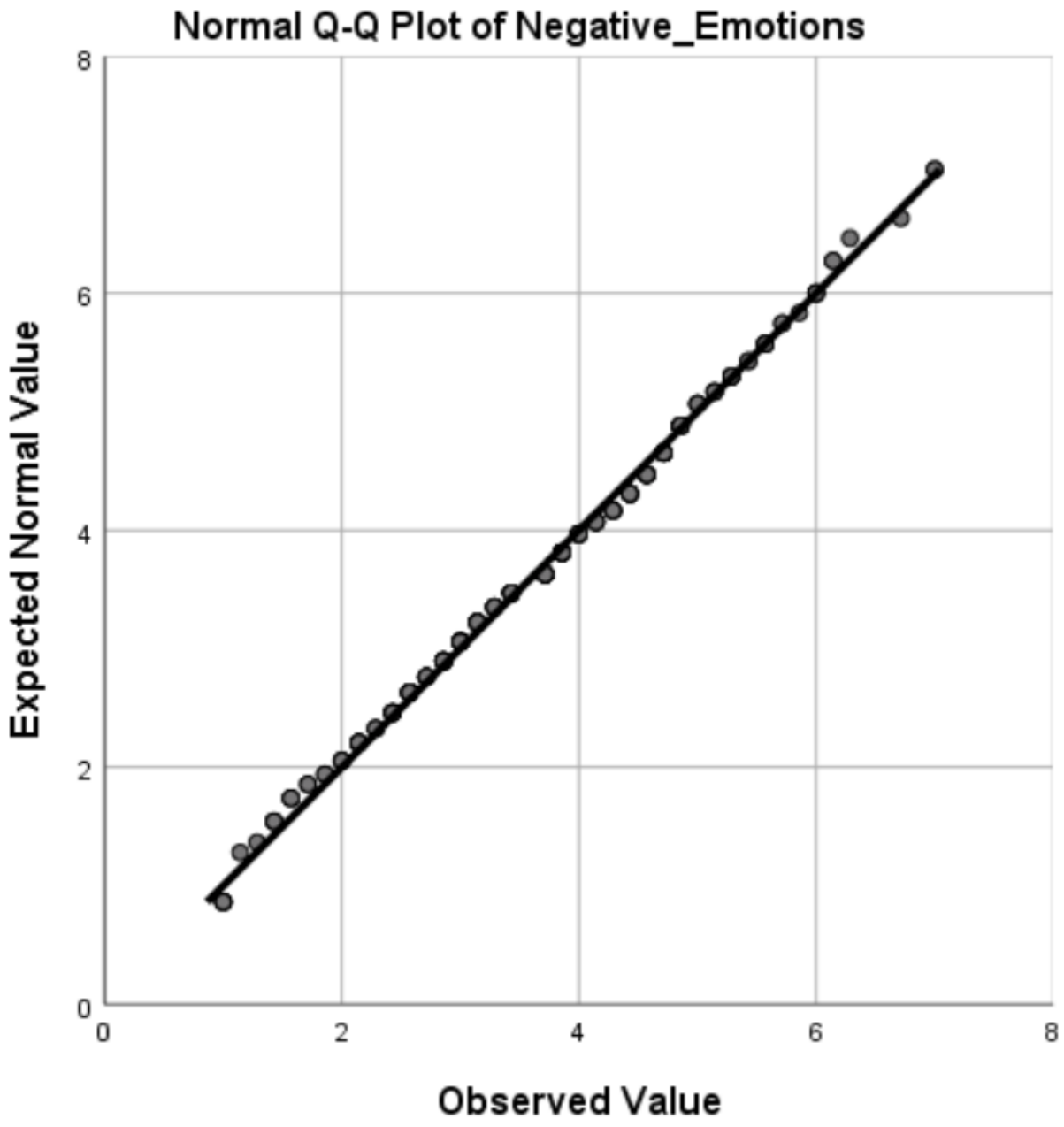
Appendix H

Q-Q plot of Difficulty



Appendix I

Q-Q plot of Negative Emotions



Appendix J

Q-Q plot of Negative Feelings