

It's Nice to Have a Friend, but is Your Favourite Musician one?
Parasocial Relationships and Fan Behaviour

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ABSTRACT

In today's digital music landscape, social media platforms allow fans to feel close to their favourite artists without direct interaction, creating parasocial relationships. While previous research has focussed on mainstream celebrities, little attention has been given to how this can differ between mainstream and early-career musicians. This study examines how perceived intimacy, reciprocity, and authenticity influence the strength of parasocial relationships, and how these relationships affect fan behaviours. By comparing fans of mainstream and early-career musicians, this thesis investigates how career phase may moderate the formation and outcomes of parasocial relationships.

The research uses a quantitative approach using an online survey distributed to fans of four musicians: mainstream musicians Taylor Swift, Harry Styles, and early-career musicians Only The Poets and Alfie Jukes. The survey collected data on fans' perceptions of intimacy, authenticity, and reciprocity, as well as measures of parasocial relationship strength, purchase intentions, and personal influence. The findings indicate that perceived intimacy, reciprocity, and authenticity significantly influence the strength of parasocial relationships between fans and musicians, supporting the idea that these relational cues are key drivers of emotional connection (RQ1). These stronger parasocial relationships, in turn, positively affect fans' behavioural intentions, including purchase intentions and influence on their personality (RQ2). Importantly, the results reveal that career phase moderates the effect of authenticity and reciprocity on parasocial relationship strength, in a way that this effect is stronger for early-career musicians than for mainstream artists (RQ3).

These findings suggest that the career phase of a musician plays an important role in shaping how parasocial relationships are formed and how they translate into consumer behaviour. The study contributes to the academic understanding of parasocial relationships in the context of popular music and provides practical implications for musicians and industry professionals. In particular, it highlights the importance of intimate, authentic, and reciprocal engagement for emerging artists seeking to grow loyal and supportive fanbases in an increasingly digital market.

KEYWORDS: Parasocial Relationship, Music Industry, Artist Career Phase, Purchase Intentions, Social Media

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1. Introduction

Today's media landscape makes celebrities more accessible than ever before. Thanks to the internet and social media, people can be always connected to their favourite celebrities. Social media allows fans to engage with musicians in ways that create a sense of personal connection, even in the absence of direct interaction. This phenomenon, known as parasocial relationships, refers to the one-sided emotional bonds fans develop with public figures (Horton & Wohl, 1956, p. 218). However, despite parasocial relationships being common in this digital age, little is known about how these parasocial relationships work within the music industry, especially looking at how these relationships might differ depending on an artist's level of fame.

This study examines how the career phase of a musician influences the strength of parasocial relationships and their effect on fan behaviours, particularly within the field of popular music, which includes multiple genres such as pop, electronic, rock, indie/alternative, hip-hop/rap (Mulder, 2022, p. 28). Existing research has mainly focussed on mainstream celebrities (Bond, 2016, p. 569; Chung & Cho, 2017, p. 482; Connell et al., 2024, p. 5), leaving a gap in understanding how parasocial relationships function for early-career musicians, and whether differences in fame can influence the strength of these relationships.

To explore these dynamics, this study focuses on comparing fans of both mainstream and early-career musicians. In this research, artist size is defined based on the musician's career phase, with early-career musicians who have moved beyond the amateur stage but have not yet reached full commercial establishment (Everts & Haynes, 2021, p. 736). In contrast, mainstream musicians have achieved widespread commercial success and are recognized by a large audience (Crossley, 2020, p. 43). Taylor Swift and Harry Styles were selected as mainstream artists due to their global commercial success and high rankings on international and national music charts. Both artists were featured in the IFPI Global Top 10 Albums Chart (IFPI, 2023), and their sustained success in the Dutch Top 40 further solidifies their mainstream status (Top40, 2025a; Top40, 2025b). In contrast, Only The Poets and Alfie Jukes are early-career musicians with growing niche fanbases, significant engagement through social media, and an absence from major mainstream charts. Early-career musicians, such as Only the Poets and Alfie Jukes, tend to cultivate closer relationships with fans through direct engagement and perceived authenticity, while mainstream musicians like Taylor Swift and Harry Styles maintain a more distant yet emotionally engaging presence (Chen, 2014, p. 251). By comparing these two categories, this research aims to determine whether parasocial relationships are stronger for early-career musicians and if this, in turn, affects fans' behaviour.

Academic Relevance

This study contributes to the academic understanding of parasocial relationships, by focussing specifically on the music industry. Parasocial interaction theory, which was first introduced by Horton and Wohl (1956, p. 218), suggest that perceived intimacy can drive fan attachment, yet existing research has mostly focussed on parasocial relationships between fans and mainstream celebrities (Bond, 2016, p. 659; Chung & Cho, 2017, p. 482; Connell et al., 2024, p. 5). This leaves a gap in understanding how these relationships differ for early-career musicians.

While mainstream musicians often have more distant connections with fans, early-career musicians usually rely on more closer interactions (Chen, 2014, p. 251). Yet, the difference in strength, and how they translate into fan behaviour such as purchase intentions, remain unexplored (Xu et al., 2023, p. 368). By comparing artists across different career stages, this research addresses this gap and adds to the existing academic literature by not only investigating predictors of parasocial relationships, but also their potential outcomes. By doing this, it connects the music industry with broader questions about emotional engagement, parasocial relationships, and consumer behaviour in the current digital world.

Societal Relevance

This research also has practical implications for musicians and the music industry. Early-career musicians must build loyal fanbases to achieve commercial success, while mainstream musicians must sustain engagement despite their scale. Parasocial relationships play a key role in influencing consumer behaviour, such as streaming, merchandise purchases and concert attendance (Liebers & Schramm, 2019, p. 15). This underscores the need for musicians, especially emerging musicians, to carefully manage their online presence in order to strengthen these connections (Burnasheva & Suh, 2020, p. 353).

With parasocial relationships influencing streaming, concert attendance, and merchandise sales, insights from this research can help shape promotional efforts across the music and entertainment sectors. Managing an artist's online presence, emphasising their authenticity, can enhance the strength of parasocial relationships (Burnasheva & Suh, 2020, p. 353), and thus by extension influence consumer decisions. By examining how career phase influences the strength of parasocial relationships, this research provides valuable insights for musicians, marketing professionals, and industry stakeholders seeking to enhance fan engagement strategies.

Research Questions

To address the identified gap, this study is guided by the following research questions:

Research question 1: How do perceived intimacy, reciprocity, and authenticity influence the strength of parasocial relationships between fans and musicians?

Research question 2: How do parasocial relationships influence fans' behaviours toward musicians?

Research question 3: How does musician career phase influence the relationship between parasocial relationships and purchase intentions?

Research Design and Thesis Structure

To address the research questions, a quantitative, cross-sectional survey was designed to target fans of four selected musicians: two early-career musicians, Only The Poets and Alfie Jukes, and two mainstream musicians, Taylor Swift and Harry Styles. The survey measured perceptions of intimacy, reciprocity, and authenticity, parasocial relationships, as well as their influence on fan behaviour. The design allowed for comparisons of these variables between musician career phases, providing insights into how this shapes parasocial relationships and consumer behaviour in the music industry. The rest of the thesis follows the following structure. Chapter two begins with an overview of the music industry, more specifically stardom theory, providing the context of this thesis. It then introduces parasocial relationships, and how these have evolved in digital contexts, followed by fan behaviour as an outcome of parasocial relationships. Finally, it explores how musician career phases can influence these relationships. Chapter three outlines the research design, survey procedure, and operationalization of key concepts. This is followed by chapter four, where the data of the survey will be used to perform statistical analyses, regressions and moderated regressions, to find the strength of predictors and differences across musician career phases. The thesis ends with chapter five, which provides a critical discussion of the results, linking them back to the theory discussed in chapter two, identifying practical applications, and discusses limitations and directions for future research.

2. Theoretical Framework

2.1 Music industry and Stardom Theory

The current music industry is not only for artistic expression, but a commercialized environment shaped by technological changes and audience engagement. Within this landscape, marketing research had mostly focussed on promotional efforts to drive their career (Everts et al., 2022, p. 99; Gamble & Gilmore, 2013, p. 1860). Rather than being only a performer, music artists actually take on multiple roles, such as marketing, management, and content creation tasks. Especially early in their career, many musicians spend a significant portion of their time on tasks that are unrelated to the making of music, such as networking and promotion (Everts et al., 2022, p. 99). This highlights how important it is for artists to not only develop their music and sound, but also their personal brand to be able to attract and keep a loyal fanbase.

Stardom theory can be used to understand how an artists' brand, their public persona, is constructed and maintained across different career stages. Rather than pure talent or coincidence, stardom includes the diverse influence of celebrities across a range of media channels (Mendes & Perrott, 2019, p. 7). Artists' careers are built by creating public personas that are flexible, carefully managed, and able to evolve in response to the changing industry and audience tastes. This process is described as artists being a 'medium in transit,' where their fame is moving and changing all the time. (Mendes & Perrot, p. 6). This flexibility gives them the opportunity to stay relevant and expand their reach by tailoring their personas to specific platforms and communities. More importantly, these tailored personas help demonstrate how 'stars' help navigate audiences through the process of creating their own identities and cultural understanding (Mendes & Perrott, 2019, p. 7).

This then shows the importance of the role of an artist in the construction of their relationship with their fanbase. As artists currently rely a lot on social media to distribute content and interact with their fans, they offer fans direct visibility into their lives, reinforcing the illusion of mutual awareness and strengthening parasocial engagement (Chung & Cho, 2017, p. 482). These dynamics make it important to understand parasocial relationships, in which audiences form emotional bonds with celebrities. Parasocial relationships serve real psychological and social purposes, such as a higher self-confidence, and a stronger sense of belonging (Liebers & Schramm, 2019, p. 15)

2.2 Parasocial Relationships and Interaction

The concept of parasocial relationships is one that is well developed in media and communication studies (Chung & Cho, 2017, p. 482; Xu et al., 2022, p. 368). This concept can help

define the relationship between celebrities, including music artists, and their fans, which are usually built via social media exchanges (Chung & Cho, 2017, p. 482). The concept of parasocial relationships was first developed by Horton and Wohl (1956, p. 215), who suggested that a parasocial relationship is that of a media user and performer, who form a seeming relationship. In literature, this relationship is often described by one of two terms: Parasocial relationships, and parasocial interactions. While both terms describe the way an audience engages with celebrities, these terms represent different stages of engagement and are frequently misused interchangeably in research (Dibble et al., 2016, p. 22).

Although existing research provides valuable insights into how parasocial connections are formed, most of the literature treats the difference between parasocial interaction and parasocial relationship as distinctly different concepts, while in reality the line is often blurred (Dibble et al., 2016, p. 38). However, some research also offers a clear distinction between the two concepts. Literature distinguishes between parasocial interactions, which are brief, real-time experiences of perceived mutual awareness, and parasocial relationships, which develop over time and persist beyond media exposure (Dibble et al., 2016, p. 24; Hartmann & Goldhoorn, 2011, p. 1107). While both terms describe audience engagement with celebrities, parasocial interactions occur during media use, whereas parasocial relationships involve lasting emotional connections (Dibble et al., 2016, p. 38).

While Dibble et al. (2016, p. 38) view these parasocial interactions as fleeting and relationships as stable, others find that this can overlook the ways in which modern social media encourages continuous, hybrid forms of connection that challenge this distinction between the two terms (Hoffner & Bond, 2022, p. 3). This distinction is especially relevant in the context of social media, where audiences' long-term emotional attachment and loyalty to public figures can be better understood through parasocial relationships as opposed to fleeting parasocial interactions (Dibble et al., 2016, p. 38). In addition to the affective connections between celebrities and fans that last beyond only specific media interactions, parasocial relationships also show how these connections impact fan behaviour and identity across time (Dibble et al., 2016, p. 24). Therefore, parasocial relationships are more suitable than parasocial interactions to examine the relationship between audiences and celebrities in this specific context, and they offer better insight into how these relationships influence fan behaviour.

The process of parasocial relationships can also be understood through the lens of stardom theory. This theory offers a framework through which audiences engage with themes of identity and belonging. These functions of stardom lay the foundation for parasocial relationships by creating personas that fans connect with on a personal level. In this way, stardom and parasocial

relationships are deeply intertwined: the more successfully an artist presents themselves as complex, relatable, or aspirational, the more likely audiences are to form lasting emotional attachments to them (Reinikainen et al., 2020, p. 281).

A parasocial interaction, which in its turn leads to a parasocial relationship, is influenced by several key attributes, which help determine the strength of the relationship. First, it is found that reciprocity is a predictor of parasocial relationships. Reciprocity refers to the perceived mutuality between fans and artists, often created when an artist interacts directly with fans (Xu et al., 2022, p. 381). Fans then perceive this as a mutual connection, even in the absence of true reciprocity from the musician. This feeling of reciprocity then helps form parasocial relationships. (Xu et al. 2022, p. 381). The same counts for intimacy. This is shaped through communication strategies that create a sense of closeness, which makes fans feel as if the musician is talking directly to them (Xu et al., 2022, p 373). Certain intimacy strategies, such as making it feel like the celebrity is talking directly to the audience, make the celebrity feel approachable, having the audience feel like they are having a direct interaction with them (Horton & Wohl, 1956, p. 218; Xu et al. 2022, p. 373). Authenticity, the perception that content is genuine, also strengthens parasocial relationships. When a celebrity is more authentic, the more likely their fans are to form a parasocial relationship with them (Rubin et al., 1985, p. 176; Xu et al. 2022, p. 371). On social media, this sense of authenticity is often conveyed through unscripted, emotional or honest content, all of which help the connection feel more real (Bond, 2016, p. 659; Cohen & Tyler, 2016, p. 345). Together, authenticity, intimacy and reciprocity form a key component of the formation of parasocial relationships. This leads to the following hypotheses:

Hypothesis H1: Higher perceived reciprocity in a musician's interactions leads to stronger parasocial relationships.

Hypothesis H2: Higher perceived intimacy in a musician's interactions leads to stronger parasocial relationships.

Hypothesis H3: Higher perceived authenticity in a musician's interactions leads to stronger parasocial relationships.

2.3 Social Media

Since a big part of the music industry takes place online, social media platforms have become spaces for musicians to share their lives with fans and build relationships with their fans. These digital interactions can give fans the opportunity to develop parasocial relationships with their favourite artists, since they can feel a sense of closeness with artists they might have even

never met in person (Kurtin et al., 2019, p. 34). For musicians, social media is crucial to help build and manage fan relationships (Leenders et al., 2015, p. 1813). Unlike traditional media, where the content from celebrities is relatively one-sided and static, social media platforms such as Instagram, X (formerly Twitter), and TikTok create an illusion of reciprocity by enabling direct interaction through likes, comments, and personalized responses (Bond, 2016, p. 657). The ability of fans being able to follow their favourite celebrities on social media, helps them feel like they actually know the celebrities to a personal level (Chung & Cho 2017, p. 483).

Research shows that the ways musicians choose to distribute content and interact on digital platforms directly influence how fans perceive them, shaping the strength of parasocial relationships and fan behaviours (Wiemer et al., 2022, p. 301). Active engagement plays a crucial role in this process, as it replicates the dynamics of face-to-face interaction by creating the impression of real-time, personal, and intimate communication. When artists engage authentically and responsively, this form of interaction strengthens the fan's perception of emotional closeness and mutual awareness, reinforcing the parasocial relationships that strengthen long-term fan support (Herrera, 2017, p. 22). As Liebers and Schramm (2019, p. 15) suggest, parasocial relationships can fulfil emotional and social functions for audiences, providing a sense of companionship and identity validation. For this reason, social media is not only a promotional space where artists show their work, but an important place where artists can build long-term fan support through their personal communication.

2.4 Fan behaviours

Understanding how parasocial relationships influence fan behaviours, first requires an examination of the factors that drive consumer purchase intentions. These factors are critical to not only understanding how fans engage with products, but also why certain behaviours, like making a purchase, become influenced by an emotional connection with public figures. A model to explain purchase intentions, is The Theory of Planned Behaviour (Ajzen, 1991, p. 206), which is a model that links individuals' beliefs to their actions. This theory suggests that a consumer's intention to engage in a behaviour, such as making a purchase, is determined by three main factors: their attitude toward the behaviour, the subjective norms or perceived social pressures surrounding it, and their perceived control over performing the behaviour. These components are interconnected, and each plays a role in influencing the behaviour of a consumer. In this framework, a positive attitude toward buying a product, combined with the belief that others approve of or also engage in the behaviour, and the perception that purchasing is easy or accessible all contribute to stronger purchase intentions. (Ajzen, 1991, p. 206, Bleize & Antheunis, 2019, p. 407).

In the context of parasocial relationships, the Theory of Planned Behaviour suggests that these relationships can directly shape consumers' attitudes and behavioural intentions. Stronger parasocial relationships may lead to a greater emotional investment in the products associated with the individual in question. For instance, music fans may be more inclined to purchase concert tickets, merchandise, or albums from an artist they feel personally connected to, as their parasocial relationship makes these products feel more meaningful (Liebers & Schramm, 2019, p. 15). However, other studies show that the influence of parasocial relationships on purchase behaviour is not only based on the strength of this relationship. For instance, Koay, Cheah, and Yap (2024, p. 14) discovered that the effect of parasocial relationships on purchase intentions is influenced by the perceived credibility of the influencer, suggesting that a strong parasocial relationship alone may not be enough to drive purchase behaviour if the influencer lacks credibility. Similarly, Tyrväinen and Karjaluoto (2025, p. 12) highlight influencer characteristics as key elements that shape parasocial engagement. This suggests that while a fan may feel emotionally connected to an artist or public figure, this bond may not necessarily always lead to increased purchase intentions.

In the context of musicians, parasocial relationships are not just abstract emotional experiences; they have tangible, real-world effects on purchase behaviour. Research shows that parasocial relationships are related to the purchase intentions of audiences (Connell et al., 2024, p. 5). Moreover, it was found that followers who have a parasocial relationship with an online influencer experienced increased purchase intentions of the influencer's brand endorsement (Breves et al, 2021, p. 1222). In the context of this study, purchase intentions of music fans can relate to buying concert tickets, merchandise, and buying and streaming albums (Fernando, 2015, p. 67), but also to fans buying products the musician recommends (Horton & Wohl, 1956, p. 217).

Parasocial relationships can not only change behaviour, but they can also influence how individuals understand themselves and make personal changes in response. People look up to celebrities as role models, who can influence a fan's sense of identity, values, and life goals. D'Adamo (2020, p. 62) argues that artists can serve as "navigational tools" for fans, helping them reflect on existential questions and societal roles. This means that these personas of celebrities can help audiences find their own identity. Participants of a study even reported that public figures played a meaningful part in helping them understand who they want to be, or even form life goals (Boon & Lomore, 2001, p. 433). More specifically, this also aligns with research that found that parasocial relationships can motivate fans to adjust their attitudes, values, appearance or even life goals to become more like a celebrity, or artist, they admire (Tian & Hoffner, 2010, p. 254).

In the context of music fandoms, this means that parasocial relationships should not only be considered as media-based attachments, but rather as structures that can guide the formation

of identity and inspire behavioural change.

Moreover, the strength of the parasocial relationship itself plays a crucial role in shaping behavioural outcomes. Research has found that the strength of a parasocial relationship can influence fans' purchase intentions (Burnasheva & Suh, 2020, p. 353). The influence of a parasocial relationship with a musician can then extend beyond the desire of supporting said musician, it also taps into the need of belonging and validation. This would then mean that when people experience a strong parasocial relationship with a musician, their likelihood of engaging in behavioural changes, such as increased purchase intentions with products related to that musician or shifts in their values, attitudes, or lifestyle, will also increase, suggesting the following hypotheses:

Hypothesis H4: A stronger parasocial relationship leads to higher purchase intentions.

Hypothesis H5: Stronger parasocial relationships with a musician leads higher levels of self-reported personal influence by that musician.

2.5 Musician Career Phase

To fully understand the impact of parasocial relationships on fan behaviour, it is necessary to define artist size within the scope of this study. For the purpose of this research, artist size is conceptualized based on the career phase the musician is currently in. Early-career musicians are in a transitional stage in their career: they are no longer amateurs but have not yet reached commercial stardom (Everts & Haynes, 2021, p. 736). These artists typically have small to mid-sized fanbases, and often rely on platforms like YouTube, TikTok, or Instagram to post content and engage with their audience. In contrast, mainstream musicians are commercially successful and known across a large audience (Crossley, 2020, p. 43). They usually have large-scale fandoms and are typically associated with major record labels, traditional media appearances, and high-profile music releases.

Strength and nature of parasocial relationships can differ significantly depending on the career phase of the musician, with early-career musicians often fostering more intimate and reciprocal connections with their audience. Xu et al. (2023, p. 366) explored this distinction by comparing parasocial relationships with micro- and mainstream celebrities. Chen (2014, p. 251) found that users tend to experience stronger parasocial interactions with micro-celebrities, compared to mainstream celebrities, who often maintain a more distant public persona.

Research suggests that fans perceive their relationships with micro-celebrities as more reciprocal than those with mainstream celebrities, likely due to higher engagement levels and direct communication (Xu et al., 2023, p. 382). Additionally, early-career musicians are often

perceived as more authentic, as they share more unfiltered, personal content and have greater control over their self-presentation, whereas mainstream musicians typically maintain a carefully curated and professionally managed image (Ferchaud et al., 2018, p. 88; Reinecke & Trepte, 2014, p. 100). Similarly, while mainstream celebrities create intimacy through emotional engagement in performances or public appearances (Horton & Wohl, 1956, p. 215), early-career musicians foster closeness by directly communicating with fans, sharing personal experiences, and portraying relatability in their daily lives (Jerslev, 2016, p. 5247; Xu et al., 2023, p. 372).

These differences suggest that musician career phase may moderate the relationship between authenticity, intimacy, and reciprocity with parasocial relationships. In other words, the effect of these variables on parasocial relationships may be more pronounced for early-career musicians than for mainstream musicians, leading to the following hypotheses:

Hypothesis H6: Musician career phase moderates the relationship between perceived reciprocity and parasocial relationships, such that early-career musicians experience stronger reciprocity effects of parasocial relationships compared to mainstream musicians.

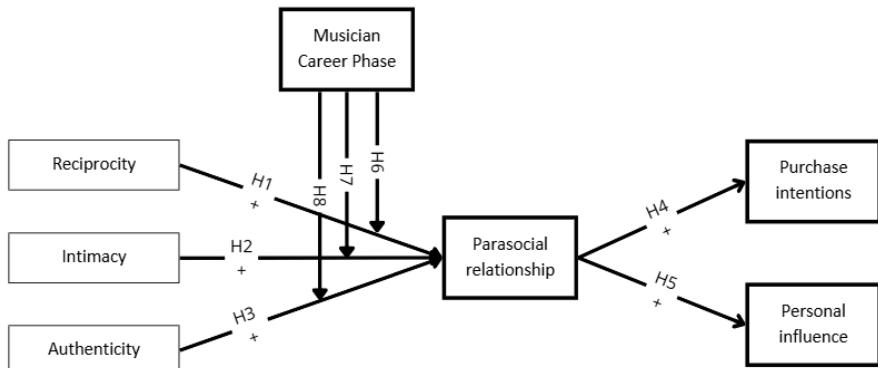
Hypothesis H7: Musician career phase moderates the relationship between perceived intimacy and parasocial relationships, such that early-career musicians experience stronger intimacy effects of parasocial relationships compared to mainstream musicians.

Hypothesis H8: Musician career phase moderates the relationship between perceived authenticity and parasocial relationships, such that early-career musicians experience stronger authenticity effects of parasocial relationships compared to mainstream musicians.

The hypotheses in this chapter lead to the following conceptual framework:

Figure 1

Conceptual framework



3. Methodology

This chapter will deal with the research design, the data collection method, and the measurements of the survey will use in this study. It describes how responses were gathered, how the survey was designed and how the constructs described in the previous chapter were measured.

3.1 Research design

The objective of the present research is explanatory, aiming to establish a relationship between variables (Saunders et al., 2003, p. 140). Exploratory research is particularly useful when wanting to investigate how and why certain phenomena occur, which aligns with this study's focus on understanding parasocial relationships. To address this aim, a quantitative research design was adopted, as this enables the systematic measurement and analysis of variables, therefore allowing the testing of hypotheses and the identification of statistically significant patterns (Saunders et al., 2003, p. 482).

A quantitative survey was chosen because it allows for the collection of structured data from a large sample efficiently, making it possible to generalize findings to a broader population (Matthews & Ross, 2010, p. 204). Surveys are especially appropriate in social science research when investigating people's opinions, attitudes, and behaviours, as they enable consistent measurements across respondents and allow for comparisons between subgroups. (Hasan, 2024, p. 7; Matthews & Ross, 2010, p. 204). This is critical for the current research, which seeks to explore the extent of parasocial relationships, and find differences between musician career phases.

The study uses a cross-sectional survey design, which captures data at a single point in time. This is particularly useful for identifying correlations and differences between variables in a population (Bryman, 2016, p. 56). This design is suitable for the aim of this research, which is to explore existing parasocial relationships, rather than track changes over time. Furthermore, the use of a structured, self-administered online questionnaire ensures both accessibility and anonymity, which can enhance reliability. The use of standardised questions and close-ended response options makes sure the key constructs are measured consistently across all respondents. This structure supports statistical analysis, which is well suited for exploring associations and relationships between variables that are central in the conceptual framework (Saunders et al., 2003, p. 379)

3.2 Procedure

For this research, an online questionnaire was created and distributed online. The questionnaire started with informing the participants about the reason for the research and obtaining informed consent. They were informed that their participation was voluntary, that they

could stop at any moment, and that their data was collected anonymously. They then answered the questions as will be described below and finally some demographic information was collected.

To ensure meaningful comparisons between career phases, two early-career musicians (Only The Poets and Alfie Jukes) and two mainstream musicians (Harry Styles and Taylor Swift) were selected to examine the effect of career phase on parasocial relationships and purchase intentions. Artist selection was based on objective indicators of popularity within their respective categories, including chart rankings, venue sizes for live performances, Spotify streaming figures, and Instagram followings, which serve as key measures of audience reach and engagement.

Taylor Swift and Harry Styles are globally recognized mainstream musicians with high commercial success and large-scale fandoms. Their selection is justified by their strong chart performance, as both ranked in the IFPI Global Top 10 Albums Chart, with Swift's *Midnights* reaching the third place and Styles' *Harry's House* securing the second position (IFPI, 2023). Swift was also the number 1 most-streamed global artist in 2022, while Styles ranked number 8. In the Netherlands, Swift has spent 184 weeks in the Top 40 with eighteen hit songs (Top40, 2025a), while Styles has spent 118 weeks in the Top 40 with six hit songs (Top40, 2025b). Additionally, both artists consistently perform in large arenas and stadiums, attracting tens of thousands of fans per show, further solidifying their status as mainstream musicians.

Only The Poets and Alfie Jukes are emerging musicians in the early stages of their careers. Their selection is justified by their smaller scale of commercial success and more niche fanbases. Neither artist is ranked in the Dutch Top 40 or appears in major global charts. On Spotify, Only The Poets has 188,755 monthly listeners, while Alfie Jukes has 390,080 monthly listeners, indicating their emerging popularity. On Instagram, Only The Poets has 106,000 followers, and Alfie Jukes has 167,000 followers, further highlighting their growing social media presence (Jukes, n.d.; Only The Poets, n.d.) Both artists primarily perform in smaller venues, such as intimate clubs and theatres, where they typically attract hundreds to a few thousand fans per show. These characteristics distinguish them as early-career musicians, still building their fanbases compared to mainstream acts like Taylor Swift and Harry Styles.

3.3 Sampling

The research was conducted among individuals who consider themselves fans of at least one of the four musicians included in this study: Taylor Swift, Harry Styles, Only The Poets, and Alfie Jukes. Participants were not required to meet any specific engagement metrics (such as concert attendance or social media activity); rather, inclusion was based on their own perception of fan identity. This self-identification removes barriers to participate and includes a broader range of

fans. The focus of the survey was on measuring fan behaviour, particularly the strength of parasocial relationships and their influence on fan behaviours.

To maximize reach and engage with a wide range of fans, the survey was written in English and distributed online between May 6 and June 20. Participants were recruited through multiple channels. The survey was shared in WhatsApp and Facebook groups dedicated to concert discussions and fan engagement for the selected artists. These platforms provided access to active fan communities who regularly interact with artist related content. To ensure the sample included fans who actively followed and engaged with the artists, respondents were approached in person while waiting in concert queues at two key events: Alfie Jukes' concert in Amsterdam on May 6 and Only The Poets' concert in Maastricht on May 9. These locations provided direct access to fans who actively follow and engage with the artists. Additionally, participants were encouraged to share the survey with others who meet the inclusion criteria within their networks, allowing for organic recruitment of additional respondents who met the inclusion criteria. Snowball sampling is effective for reaching populations that may not be easily accessible through traditional sampling techniques (Parker et al., 2019, p. 4).

To ensure comparable responses across the two categories of artists (mainstream and early-career), efforts were made to recruit similar numbers of participants for both groups. This allowed for a balanced analysis of parasocial relationships across different musician career stages, and their potential impact on purchase intentions.

3.4 Operationalization

Parasocial relationships are measured according to the constructs that were discussed in the literature review: parasocial relationships, perceived reciprocity, authenticity, and intimacy, purchase intentions, and personal influence. The full overview of all items that were used in this research can be found in appendix A.

3.4.1 Parasocial Relationships

Parasocial interaction was measured with the Experience of Parasocial Interaction Scale (EPSI-Scale) (Hartmann & Goldhoorn, 2011, p. 1107). Even though the name suggests this scale measures parasocial interaction, since the items are worded to last beyond only specific media interactions, this scale is used to measure parasocial relationships. Some items are slightly adjusted in order to better fit this specific research context. This scale consists of the following six items measuring agreement on a Likert scale of 1 (strongly disagree) to 7 (strongly agree): “[name of the celebrity] is aware of me”, “[name of the celebrity] knows I exist”, “[name of the celebrity] knows I am aware of them”, “[name of the celebrity] knows that I pay attention to them”, “[name of the

[celebrity] knows that I react to them”, “[name of the celebrity] reacts to what I say or do”.

3.4.2 Perceived Reciprocity

To measure perceived reciprocity, the scale of Xu et al. was used (Xu et al., 2023, p. 375). They measure reciprocity as how often the musician interacts with fans in general on social media. The scale includes the following five items: “[name of the celebrity] likes the content fans post”, “[name of the celebrity] replies to fans’ comments”, “[name of the celebrity] leaves comments on fans’ account(s)”, “[name of the celebrity] shares fans’ messages”, “[name of the celebrity] can chat with fans on social media”. The scale is measured on a Likert scale of 1 (strongly disagree) to 7 (strongly agree). This scale showed high reliability in the original research, measuring a Cronbach’s alpha of .90 for mainstream-, and .89 for micro-celebrities in Xu et al.’s research (Xu et al., 2023, p. 375).

3.4.3 Authenticity

To measure perceived authenticity, the scale of Xu et al. was used, who derived their scale from Hall’s Authenticity Scale and Susing et al.’s Peer Authenticity Scale (Hall, 2009; Susing et al., 2011; Xu et al., 2023, p. 375). The scale consists of the following eight items measuring agreement on a scale of 1 (strongly disagree) to 7 (strongly agree): “[name of the celebrity] is an authentic person”, “[name of the celebrity] is what he or she really is on social media”, “[name of the celebrity] doesn’t pretend to be someone else when presenting themselves on social media”, “[name of the celebrity] behaves the same on social media as offline”, “[name of the celebrity] thinks it is more important to be themselves than to be popular”, “[name of the celebrity] does what he/she says (believes)”, “[name of the celebrity] whose posts are not authored by a manager/assistant”, “[name of the celebrity] reveals his/her true self when interacting with fans”. This scale also showed high reliability in the original research, measuring a Cronbach’s alpha of .905 for mainstream-, and .938 for micro-celebrities in Xu et al.’s research (Xu et al., 2023, p. 375).

3.4.4 Intimacy

To measure perceived intimacy, the Unidimensional Relationship Closeness Scale (URCS) was used (Dibble et al., 2012). Some items were adapted to fit parasocial relationships, and three were left out because they did not match the context of social media interaction. That left the following nine items, which are used to measure closeness in a relationship on a Likert scale from 1 (strongly disagree) to 7 (strongly agree): “My relationship with [name of the celebrity] is close”, “When they are offline, I miss [name of the celebrity] a great deal”, “[name of the celebrity] and I disclose important personal things to each other”, “[name of the celebrity] and I have a strong connection”, “[name of the celebrity] is a priority in my life”, “When I have free time I choose to

spend it on [name of the celebrity]”, “I think about [name of the celebrity] a lot”, My relationship with [name of the celebrity] is important in my life”, “I consider [name of the celebrity] when making important decisions”.

3.4.5 Purchase intentions

Purchase intentions were measured in willingness to buy products from the musicians, such as merchandise, concert tickets or music. The scale that is used, is derived from Dodds et al. (1991, p. 318). The scale exists of four items measured on a Likert scale from 1 (strongly disagree) to 7 (strongly agree), that are adapted to fit the context of this research: “The likelihood of purchasing merchandise, concert tickets, or music from [name of the celebrity] is ...”, “If I were going to financially support [name of the celebrity], I would consider purchasing their merchandise, concert tickets, or music”, “The probability that I would financially support [name of the celebrity] by purchasing their merchandise, concert tickets, or music is ...”, “My willingness to buy merchandise, concert tickets, or music from [name of the celebrity] is ...”.

3.4.6 Influence

To measure the influence an artist has on the life of a fan, the scale of Tian and Hoffner was used (2010, p. 258). The scale includes the following five items measuring influence on a Likert scale of 1 (strongly disagree) to 7 (strongly agree): “I have tried to change aspects of my personality to be more like [name of the celebrity]”, “I have tried to change my physical appearance to be more like [name of the celebrity]”, “I have tried to change my attitudes and values to be more like [name of the celebrity]”, [name of the celebrity]’s lifestyle has inspired me to pursue a particular hobby, career, or other activity”, “[name of the celebrity] has had a strong influence on who I am”. Some items have been slightly adjusted from the original research in order to better fit this specific research context.

3.4 Processing and Analysis of Data

The collected data was processed and analysed using RStudio. First, the dataset was cleaned to remove incomplete responses. Descriptive statistics will be used to summarize the key variables, including parasocial relationship strength, purchase intentions, and career phase. The measurements used were evaluated using confirmatory factor analysis (CFA) for validity and Cronbach’s alpha for reliability. Then, multiple tests such as linear regression, moderated regression, and T-Tests will be used to analyse the data and answer the hypotheses. Hypotheses 1, 2, 3, 4 and 5 will be tested using a regression analysis. Hypotheses 6, 7, and 8 will be tested using a moderated regression, with some additional t-tests. For all tests, assumptions were tested. For homoscedasticity, a Breusch-Pagan test was used, normality was checked using a Shapiro-Wilk test,

and a Levene's test for the homogeneity of variances.

3.5 Validity, Reliability, and Ethical Consideration

To ensure validity, this study carefully examined whether the survey accurately measures the intended concepts parasocial relationships and fan behaviours. Given the complexity of these constructs, validated scales and standardised questions from previous research were incorporated to enhance measurement accuracy (Mellinger & Hanson, 2020, p. 177). By relying on pre-existing scales and established indicators, the study strengthens content validity by ensuring that the questionnaire items adequately represent the constructs being measured (Saunders et al., 2003, p. 373).

To ensure the reliability and construct validity of this study, all multi-item scales will be evaluated in the results chapter. Internal consistency will be assessed using Cronbach's alpha, with a threshold of $\alpha \geq .70$ considered acceptable (Mellinger & Hanson, 2020, p. 179). Exploratory factor analysis (PCA with oblimin rotation) will also be conducted to verify the one-dimensionality of each scale and support construct validity.

Finally, ethical considerations were prioritised during the research process. Participants were provided with informed consent, ensuring they understood the purpose of the study, their voluntary participation, and their right to withdraw at any time (et al., 2003, p. 190). The survey was anonymous, protecting respondents' privacy and minimizing potential risks. Data collection adhered to ethical guidelines, ensuring that responses were stored securely and used solely for research purposes. Special attention was given to recruitment methods, ensuring that participants were not coerced and that their participation was based on genuine interest in the study.

4. Results

This chapter will present the findings of the study. It will provide a detailed analysis of the collected data and will evaluate the research hypotheses. It uses the outcomes of statistical tests to examine the relationship between the variables described in previous chapters. For the factor analysis, SPSS will be used, and for the other analyses, RStudio will be used. The full outputs can be found in appendix D.

4.1 Data Preparation

In total, 210 participants took part in the survey. 58 participants did not finish the survey, which leads to a total of 152 completed answers, which is a completion rate of 72.4%. The answers that were not complete, were removed from the data.

4.2 Descriptive Statistics

Of the 152 remaining respondents 129 (84.9%) are female, and 11 (7.2%) are male. The other respondents either selected non-binary (4) or other (1). Seven people preferred not to answer this question. The average age was 23, with answers ranging between 14 and 66. This shows that the sample collected a wide range of different ages. 36 respondents answered all questions about Harry Styles, 45 chose for Taylor Swift, 35 chose for Only The Poets and 36 answered about Alfie Jukes. In table 4.1, the descriptive statistics can be seen per artist.

Table 4.1

Descriptive Statistics

Artist	Size (N)	Gender (N)				Age
		Male	Female	Non-Binary	Other	
Harry Styles	36	2	32	0	5	21
Taylor Swift	45	4	39	0	0	25
Total mainstream artists	81	6	71	0	5	23
Only the poets	35	0	32	1	1	21
Alfie Jukes	36	5	26	2	0	23
Total early-career musicians	71	5	58	3	1	22

4.3 Reliability

For every scale used in the survey, a factor analysis is done to identify underlying patterns in the data. Then, to assure that the different items on a scale all measured the same underlying construct, the Cronbach's alpha was calculated for each scale.

First, a Principal Component Analysis (PCA) with direct oblimin rotation was conducted to examine the underlying structure of the six items measuring parasocial relationships. The Kaiser-Meyer-Olkin (KMO) value was .87, exceeding the acceptable threshold of .60, and indicating sampling adequacy. Bartlett's Test of Sphericity was significant, $\chi^2 (15) = 1124.93, p < .001 < .05$, confirming that the correlation matrix was suitable for factor analysis. The PCA revealed a one-factor solution based on the eigenvalue criterion (> 1.00), with the single factor explaining 83.7 % of the total variance. All items loaded strongly on this factor (factor loadings ranged from .86 to .93), replicating the unidimensional structure found in the original study. The internal consistency of the scale was high, with a Cronbach's alpha of $\alpha = .96$. As any value above a 0.70 threshold is seen as acceptable (Taber, 2018), this scale can be seen as reliable. The factor loadings can be found in table 4.2.

Table 4.2

Factor loadings, explained variance and reliability for the scale Parasocial Relationship

Items	Factor Loadings
[name of the celebrity] is aware of me	.92
[name of the celebrity] knows I exist	.91
[name of the celebrity] knows I am aware of them	.93
[name of the celebrity] knows that I pay attention to them	.93
[name of the celebrity] knows that I react to them	.93
[name of the celebrity] reacts to what I say or do	.86
R^2	.84
<i>Cronbach's α</i>	.96

For reciprocity, authenticity, and intimacy, another PCA was conducted to examine the underlying structure of each variable. The Kaiser-Meyer-Olkin (KMO) value was above the threshold of .60 for each scale (reciprocity: KMO = .87, authenticity: KMO = .90, intimacy: KMO = .93). Bartlett's Tests of Sphericity were significant in all cases (reciprocity: $\chi^2 (10) = 645.15, p < .001 < .05$,

authenticity: $\chi^2 (28) = 746.05, p < .001 < .05$, intimacy: $\chi^2 (36) = 1284.20, p < .001 < .05$). Each scale revealed a one-factor solution based on the eigenvalue criterion (> 1.00). The factor explains 78.5% for reciprocity, 61.8% for authenticity, and 70.8% for intimacy. The internal consistency of all scales was high, with Cronbach's alpha values of $\alpha = .89$ for reciprocity, $\alpha = .90$ for authenticity, and $\alpha = .95$ for intimacy. The factor loadings can be found in table 4.3

Table 4.3

Factor loadings, explained variance and reliability for the scales Reciprocity, Authenticity, and Intimacy

Scale and items	Factor Loadings
Reciprocity	
[name of the celebrity] likes the content fans post	.87
[name of the celebrity] replies to fans' comments	.94
[name of the celebrity] leaves comments on fans' account(s)	.90
[name of the celebrity] shares fans' messages	.88
[name of the celebrity] can chat with fans on social media	.83
R^2	.79
<i>Cronbach's α</i>	.89
Authenticity	
[name of the celebrity] is an authentic person	.74
[name of the celebrity] is what he or she really is on social media	.84
[name of the celebrity] doesn't pretend to be someone else when presenting themselves on social media	.85
[name of the celebrity] behaves the same on social media as offline	.85
[name of the celebrity] thinks it is more important to be themselves than to be popular	.77
[name of the celebrity] does what he/she says (believes)	.83
[name of the celebrity] whose posts are not authored by a manager/assistant	.60
[name of the celebrity] reveals his/her true self when interacting with fans	.79
R^2	.62
<i>Cronbach's α</i>	.90

Intimacy	
My relationship with [name of the celebrity] is close	.81
When they are offline, I miss [name of the celebrity] a great deal	.83
[name of the celebrity] and I disclose important personal things to each other	.73
[name of the celebrity] and I have a strong connection	.81
[name of the celebrity] is a priority in my life	.88
When I have free time I choose to spend it on [name of the celebrity]	.88
I think about [name of the celebrity] a lot	.86
My relationship with [name of the celebrity] is important in my life	.90
I consider [name of the celebrity] when making important decisions	.86
<i>R</i> ²	.71
<i>Cronbach's α</i>	.95

Then, another PCA was conducted for purchase intentions. The Kaiser-Meyer-Olkin (KMO) value was .83. Bartlett's Test of Sphericity was significant, $\chi^2 (6) = 665.31, p < .001 < 05$, confirming that the correlation matrix was suitable for factor analysis. The PCA revealed a one-factor solution based on the eigenvalue criterion (> 1.00), with the single factor explaining 87.9% of the total variance. All items loaded strongly on this factor (factor loadings ranged from .92 to .96), replicating the unidimensional structure found in the original study. The internal consistency of the scale was high, with a Cronbach's alpha of $\alpha = .95$. The factor loadings can be found in table 4.4

Table 4.4

Factor loadings, explained variance and reliability for the scale r Purchase Intentions

Items	Factor Loadings
The likelihood of purchasing merchandise, concert tickets, or music from [name of the celebrity] is92
If I were going to financially support [name of the celebrity], I would consider purchasing their merchandise, concert tickets, or music	.94
The probability that I would financially support [name of the celebrity] by purchasing their merchandise, concert tickets, or music is93
My willingness to buy merchandise, concert tickets, or music from [name of the celebrity] is96

R^2	.88
<i>Cronbach's α</i>	.95

Another PCA was conducted for influence. The Kaiser-Meyer-Olkin (KMO) value was .87. Bartlett's Test of Sphericity was significant, $\chi^2 (10) = 441.88, p < .001 < .05$, confirming that the correlation matrix was suitable for factor analysis. The PCA revealed a one-factor solution based on the eigenvalue criterion (> 1.00), with the single factor explaining 71.4% of the total variance. All items loaded strongly on this factor (factor loadings ranged from .77 to .89), replicating the unidimensional structure found in the original study. The internal consistency of the scale was high, with a Cronbach's alpha of $\alpha = .90$.

Table 4.5

Factor loadings, explained variance and reliability for the scale Personal Influence

Items	Factor Loadings
I have tried to change aspects of my personality to be more like [name of the celebrity]	.88
I have tried to change my physical appearance to be more like [name of the celebrity]	.89
I have tried to change my attitudes and values to be more like [name of the celebrity]	.87
[name of the celebrity]'s lifestyle has inspired me to pursue a particular hobby, career, or other activity	.77
[name of the celebrity] has had a strong influence on who I am	.81
R^2	.71
<i>Cronbach's α</i>	.90

4.4 Hypothesis testing

Once all the data has been prepared and described, the hypotheses can be tested. All hypotheses are formulated in chapter 2, and a complete overview of which hypotheses are accepted or rejected can be found in table 4.7. Before testing the hypotheses, it was tested if there were any significant differences between the artists within the categories mainstream and early-career. To control if the strength of a parasocial relationship was not dependent on the artist, two artists for each category were introduced in the survey. Two t-tests were run to check if the

parasocial relationship was similar between the two early-career musicians and similar between the two mainstream musicians. For the early-career musicians, Results show that there was no significant difference in the rating of parasocial relationships ($t (63.57) = 1.97, p = .054 > .05$) between the two early-career musicians, indicating that fans of Only The Poets ($m = 5.17, SD = 1.18$) rated parasocial relationships similarly to fans of Alfie Jukes ($m = 4.50, SD = 1.64$). For the mainstream musicians, results show that there was no significant difference in the rating of parasocial relationships ($t (75.43) = 0.52, p = .605 > .05$), where fans of Taylor Swift ($m = 2.40, SD = 1.50$) rated parasocial relationships similarly to fans of Harry Styles ($m = 2.23, SD = 1.49$). As no significant differences were found between the two early-career and the two mainstream musicians, their data will be combined into single groups for further analyses. Table 4.6 shows an overview of the predictors of the conceptual framework.

Table 4.6

Comparing predictors of parasocial relationships between mainstream and early-career musicians

Variables	Mainstream		Early-Career	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Reciprocity	3.92	1.51	5.66	1.05
Intimacy	3.12	1.49	4.19	1.71
Authenticity	4.99	1.08	5.97	0.88

4.4.1 Reciprocity

For hypothesis H1 (“Higher perceived reciprocity in a musician’s interactions leads to stronger parasocial relationships”), it was tested if reciprocity influences a fan’s parasocial relationship with an artist. First, a Breusch-Pagan test showed no evidence to suggest a violation of the assumption of homoscedasticity ($BP (1) = 0.49, p = .483 > .05$). Normality was checked using a Shapiro-Wilk test. This showed that the model does not follow a normal distribution ($W = .97, p = .003 < .05$). However, since the sample size was bigger than 30, the Central Limit Theorem states that a sample will be normally distributed, as long as the sample size is big enough (Kwak & Kim, 2017, p. 148). This is why a regression is still chosen rather than a non-parametric test.

Next, a regression was done to test the influence of reciprocity (IV) on parasocial relationships (DV). The results showed that reciprocity was a significant predictor of parasocial relationships ($F (1, 150) = 120.30, p < .001 < .05$). 40.6% of the variance in parasocial relationship

strength can be explained by perceived reciprocity ($R^2 = 0.41$). Reciprocity has a positive association with parasocial relationship strength ($b = 0.79, t = 10.11, p < .001 < .05$). This indicates that for an increase of one unit in rating of reciprocity, the rating of parasocial relationships is expected to increase 0.79. These results mean that hypothesis H1 is accepted.

4.4.2 Intimacy

For hypothesis H2 ("Higher perceived intimacy in a musician's interactions leads to stronger parasocial relationships."), it was tested if intimacy influences a fan's parasocial relationship with an artist. First, a Breusch-Pagan test showed no evidence to suggest a violation of the assumption of homoscedasticity ($BP (1) = .05, p = .830 > .05$). Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.99 p = .653 > .05$).

Next, a regression was done to test the influence of intimacy (IV) on parasocial relationships (DV). The results showed that intimacy was a significant predictor of parasocial relationships ($F (1, 150) = 123, p < .001 < .05$). 45.1% of the variance in parasocial relationship strength can be explained by perceived intimacy ($R^2 = 0.45$). Intimacy has a positive association with parasocial relationship strength ($b = 0.77, t = 11.09, p < .001 < .05$). This indicates that for an increase of one unit in rating of intimacy, the rating of parasocial relationships is expected to increase 0.77. These results mean that hypothesis H2 is accepted.

4.4.3 Authenticity

For hypothesis H3 ("Higher perceived authenticity in a musician's interactions leads to stronger parasocial relationships"), it was tested if authenticity influences a fan's parasocial relationship with an artist. First, a Breusch-Pagan test showed no evidence to suggest a violation of the assumption of homoscedasticity ($BP (1) = 0.84, p = .360 > .05$). Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.99, p = .340 > .05$).

Next, a regression was done to test the influence of authenticity (IV) on parasocial relationships (DV). The results showed that authenticity was a significant predictor of parasocial relationships ($F (1, 150) = 83.14, p < .001 < .05$). 35.7% of the variance in parasocial relationship strength can be explained by perceived authenticity ($R^2 = 0.36$). Authenticity has a positive association with parasocial relationship strength ($b = 1.05, t = 9.12, p < .001 < .05$). This indicates that for an increase of one unit in rating of authenticity, the rating of parasocial relationships is expected to increase 1.05. These results mean that hypothesis H3 is accepted.

4.4.4 Purchase Intentions

To test hypothesis H4 ("A stronger parasocial relationship leads to higher purchase intentions"), a regression was done to test the influence of parasocial relationships (IV) on purchase intentions (DV). First, a Breusch-Pagan test showed evidence to suggest a violation of the assumption of homoscedasticity ($BP (1) = 22.71, p < .001 < .05$). Because of this, a log transformation was applied to parasocial relationships to address heteroscedasticity, and a regression was performed with the transformed predictor. Normality was checked using a Shapiro-Wilk test. This showed that the model does not follow a normal distribution ($W = 0.83, p < .001 < .05$). However, since the sample size was bigger than 30, the Central Limit Theorem states that a sample will be normally distributed, as long as the sample size is big enough (Kwak & Kim, 2017, p. 148). This is why a regression is still chosen rather than a non-parametric test.

Next, a regression was done to test the influence of parasocial relationships (IV) on purchase intentions (DV). The results showed that parasocial relationship was a significant predictor of purchase intentions ($F (1, 150) = 25.6, p < .001 < .05$). 14.6% of the variance of purchase intentions can be explained by parasocial relationship strength ($R^2 = 0.15$). Parasocial relationships have a positive association with purchase intentions ($b = 0.78, t = 5.06, p < .001 < .05$). This indicates that for an increase of one unit in rating of parasocial relationships, the rating of purchase intentions is expected to increase 0.78. These results mean that hypothesis H4 is accepted.

4.4.5 Influence

To test hypothesis H5 ("Stronger parasocial relationships with a musician are associated with higher levels of self-reported personal influence by that musician."), a regression was done to test the influence of parasocial relationships (IV) on personal influence (DV). First, a Breusch-Pagan test showed no evidence to suggest a violation of the assumption of homoscedasticity ($BP (1) = 2.71, p = .100 > .05$). Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.98, p = .012 < .05$). However, since the sample size was bigger than 30, the Central Limit Theorem states that a sample will be normally distributed, as long as the sample size is big enough (Kwak & Kim, 2017, p. 148). This is why a regression is still chosen rather than a non-parametric test.

Next, a regression was done to test the influence of parasocial relationships (IV) on personal influence (DV). The results showed that parasocial relationship was a significant predictor of personal influence ($F (1, 150) = 27.85, p < .001 < .05$). 16.2% of the variance of personal influence can be explained by parasocial relationship strength ($R^2 = 0.16$). Parasocial relationships have a positive association with personal influence ($b = 0.32, t = 5.28, p < .001 < .05$). This indicates that for an increase of one unit in rating of parasocial relationships, the rating of personal influence is

expected to increase 0.32. These results mean that hypothesis H4 is accepted.

4.4.6 Reciprocity Moderation

To test hypothesis H6 (“Musician career phase moderates the relationship between perceived reciprocity and parasocial relationships, such that early-career musicians experience stronger reciprocity effects of parasocial relationships compared to mainstream musicians.”), a moderated regression was run using the PROCESS macro (Model 1) in R to test whether artist size moderated the effect of reciprocity on parasocial relationships.

Before interpreting the results, the assumptions of linear regression were checked. A Breusch-Pagan test showed no evidence to suggest a violation of the assumption of homoscedasticity ($BP (3) = 12.69, p = .054 > .05$). Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.99, p = .614 > .05$).

For reciprocity, the overall model was significant ($F (3, 148) = 60.90, p < .001 < .05$), with reciprocity explaining a substantial portion of variance in parasocial relationship strength ($R^2 = .55$), as was already proven with hypothesis H1. The interaction between reciprocity and artist type was also significant ($b = 0.47, t (148) = 2.60, p = .010 < .05$), indicating that the relationship between reciprocity and parasocial relationships depends on whether the artist is mainstream or early-career. Further exploration of this interaction finds that when the artist is early-career ($b = 0.82 t (148) = 5.44, p < .001 < .05$), reciprocity has a stronger positive effect on parasocial relationship strength compared to when the artist is mainstream ($b = 0.36, t (148) = 3.69, p < .001 < .05$). This means that Hypothesis H6 is accepted

4.4.7 Intimacy Moderation

To test hypothesis H7 (“Musician career phase moderates the relationship between perceived intimacy and parasocial relationships, such that early-career musicians experience stronger intimacy effects of parasocial relationships compared to mainstream musicians.”), a moderated regression was run using the PROCESS macro (Model 1) in R to test whether artist size moderated the effect of intimacy on parasocial relationships. Before interpreting the results, the assumptions of linear regression were checked. A Breusch-Pagan test showed evidence to suggest a violation of the assumption of homoscedasticity ($BP (3) = 45.34 p < .001 < .05$). Because of this, a log transformation was applied to intimacy to address heteroscedasticity, and a regression was performed with the transformed predictor. Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.99, p = .628 > .05$).

The overall model was significant ($F (3, 148) = 88.81, p < .001 < .05$), with intimacy

explaining a substantial portion of variance in parasocial relationship strength ($R^2 = .64$), as was already proven with hypothesis H2. The interaction between intimacy and artist type was not significant ($b = 0.49$, $t (148) = 1.40$, $p = .164 > .05$), indicating that musician career phase did not moderate the effect of intimacy on parasocial relationships. This means that hypothesis H7 is rejected.

However, since table 4.3 seems to show a difference in intimacy between mainstream and early-career musicians, an independent sample t-test was conducted to compare perceived intimacy between fans of mainstream musicians and fans of early-career musicians. First, the Levene's test for the homogeneity of variances showed no significant difference in variances across early-career versus mainstream musicians ($F (1, 150) = 2.27$, $p = .134 > 0.05$). Normality was checked using a Shapiro-Wilk test. Results showed that the data for intimacy did not follow a normal distribution, for early-career musicians ($W = 0.92$, $p < .001 < .05$) and for mainstream musicians ($W = 0.96$, $p = .009 < .05$). However, since the sample size was bigger than 30, the Central Limit Theorem states that a sample will be normally distributed, as long as the sample size is big enough (Kwak & Kim, 2017, p. 148). This is why a t-test was chosen over a non-parametric test.

Results show that there was a significant difference ($t (150) = -4.14$, $p < .001 < .05$), with early-career musicians ($m = 4.19$, $SD = 1.71$) reporting higher intimacy than fans of mainstream musicians ($m = 3.12$, $SD = 1.49$). Even though musician career phase did not have a moderating effect on the relationship between intimacy and parasocial relationship, career phase is associated with different levels of intimacy overall.

4.4.8 Authenticity Moderation

To test hypothesis H8 ("Musician career phase moderates the relationship between perceived authenticity and parasocial relationships, such that early-career musicians experience stronger authenticity effects of parasocial relationships compared to mainstream musicians"), a moderated regression was run using the PROCESS macro (Model 1) in R to test whether artist size moderated the effect of authenticity on parasocial relationships. A Breusch-Pagan test showed evidence to suggest a violation of the assumption of homoscedasticity ($BP (3) = 15.85$, $p = .001 < .05$). Because of this, a log transformation was applied to authenticity to address heteroscedasticity, and a regression was performed with the transformed predictor. Normality was checked using a Shapiro-Wilk test. This showed that the model follows a normal distribution ($W = 0.98$, $p = .052 > .05$).

The overall model was significant ($F (3, 148) = 57,80$ $p < .001 < .05$), with authenticity explaining a substantial portion of variance in parasocial relationship strength ($R^2 = .56$), as was

already proven with hypothesis H3. The interaction between authenticity and artist type was significant, indicating that musician career phase did moderate the effect of authenticity on parasocial relationships ($b = 2.86, t (148) = 2.84, p = .005 < .05$). When further exploring the interaction, it was found that for mainstream musicians, the effect of authenticity on parasocial relationships was positive and significant ($b = 1.66, t (148) = 3.08, p = .002 < .05$). However, this effect was even stronger for early-career musicians ($b = 4.52, t (148) = 5.32, p < .001 < .05$). These results suggest that the relationship between authenticity and parasocial relationships is stronger for an early-career musician, compared to a mainstream musician. This means that hypothesis H8 is accepted.

Table 4.7

Overview of Hypotheses

Hypothesis Number	Prediction	Analysis	Accepted? (Yes/No)
1	Higher perceived reciprocity in a musician's interactions leads to stronger parasocial relationships.	Linear regression	Yes
2	Higher perceived intimacy in a musician's interactions leads to stronger parasocial relationships.	Linear regression	Yes
3	Higher perceived authenticity in a musician's interactions leads to stronger parasocial relationships.	Linear regression	Yes
4	A stronger parasocial relationship leads to higher purchase intentions.	Linear regression	Yes
5	Stronger parasocial relationships with a musician leads higher levels of self-reported personal influence by that musician	Linear regression	Yes
6	Musician career phase moderates the relationship between perceived reciprocity and parasocial relationships, such that early-career musicians experience stronger reciprocity effects of parasocial relationships compared to mainstream musicians.	Moderated regression	Yes
7	Musician career phase moderates the relationship between perceived intimacy and parasocial relationships, such that early-career musicians experience stronger intimacy effects of parasocial relationships compared to mainstream musicians.	Moderated regression	No
8	Musician career phase moderates the relationship between perceived authenticity and parasocial relationships, such that early-career musicians experience stronger authenticity effects of parasocial	Moderated regression	Yes

relationships compared to mainstream musicians.

5. Discussion

In this final chapter, the key findings of the research are summarized and answers to the research questions will be provided. Following that, the contribution of this research to both theory and practice are highlighted. It will then discuss the limitations of the study, and suggestions for future research are given.

5.1 Main Research Findings

Parasocial relationships play a significant role in shaping fan engagement and consumer behaviour in the music industry. While extensive research has explored parasocial relationships in the context of celebrities, the distinction between early-career and mainstream musicians is still relatively unexplored. Therefore, this thesis aimed to examine how perceived intimacy, reciprocity, and authenticity influence parasocial relationships, if the career phase of a musician influenced the strength of this effect, and how these relationships affect purchase intentions and personal influence amongst fans. Through a review of existing literature, a quantitative survey was designed to answer the following research questions:

Research question 1: How do perceived intimacy, reciprocity, and authenticity influence the strength of parasocial relationships between fans and musicians?

Research question 2: How do parasocial relationships influence fans' behaviours toward musicians?

Research question 3: How does musician career phase influence the relationship between parasocial relationships and purchase intentions?

The findings indicate that intimacy, reciprocity, and authenticity are significant predictors of parasocial relationships. Fans who perceive higher levels of either of these variables with a musician, tend to form stronger parasocial relationships. This reinforces the idea that these attributes are central to the formation of parasocial relationships (Bond, 2016, p. 659; Rubin et al., 1985, p. 176; Xu et al. 2022, p. 373). Furthermore, the results show that parasocial relationships are associated with higher levels of purchase intentions, meaning that fans who feel a stronger connection with an artist are more likely to financially support them by buying concert tickets, music, or merchandise. These findings align with previous findings suggesting that parasocial relationship can shape consumer behaviour (Breves et al, 2021, p. 1222; Connell et al., 2024, p. 5). In addition to consumer behaviour, the findings suggest that the influence of parasocial relationships extends beyond purchase intentions, to influence personal identity, as fans with stronger parasocial relationships reported greater self-perceived influence from musicians. This

supports existing literature that suggest that fans often view celebrities as role models who shape their values, appearance, and life decisions (Boon & Lomore, 2001, p. 433; D'Adamo, 2020, p. 62).

Contrary to expectations, the effect of intimacy on parasocial relationships was not moderated by career phase, despite early-career musicians being perceived as more intimate by their fans. Fans of early-career musicians reported higher levels of intimacy compared to fans of mainstream musicians. This indicates that although the relationships between intimacy and parasocial relationships remain stable, early-career musicians still have stronger impressions of intimacy. This aligns with previous research suggesting that early-career musicians often present a more intimate image, which can enforce parasocial relationships (Jerslev, 2016, p. 5247; Xu et al. 2022, p. 373). However, this also suggests that perceived intimacy may function differently compared to authenticity and reciprocity in shaping parasocial relationships.

Finally, authenticity and reciprocity emerged as the variables whose relationship with parasocial relationships was significantly moderated by musician career phase. While authenticity predicted stronger parasocial relationships in general, its effect was more pronounced for early career musicians. This implies that fans are especially sensitive to perceptions of authenticity and reciprocity when forming a relationship with early-career musicians. These results reinforce the idea that authenticity and reciprocity play an important part in building parasocial connections, especially early in an artist's career, and may function as a key driver of relationships formation (Ferchaud et al., 2018, p. 88; Reinecke & Trepte, 2014, p. 100; Xu et al., 2023, p. 382).

By combining psychological, behavioural, and contextual perspectives, this thesis offers a comprehensive response to its central research questions. First, it demonstrated that intimacy, reciprocity, and authenticity are key drivers in the development of parasocial relationships between fans and musicians. Second, the research shows that parasocial relationships meaningfully influence fans' behavioural outcomes, including their willingness to financially support an artist and their self-reported perception of the artist's influence on their personal values and identity. This reinforces the idea that parasocial relationships extend beyond just admiration and play an active role in shaping consumer behaviour and identity. Third, while musician career phase did not moderate the effects of intimacy on parasocial relationships, it did still shape the perceptions of these qualities. Fans of early-career musicians reported significantly higher levels of intimacy than those of mainstream artists. Most notably, career phase did in fact moderate the effect of authenticity and reciprocity, meaning that these qualities have a stronger impact on parasocial relationship strength for early-career musicians. Taken together, these results indirectly also suggest that the career phase of a musician may shape fans behaviours, not necessarily by influencing the direct effect of parasocial relationship on consumer behaviour, but by influencing the conditions under which such

relationships are formed and intensified. This layered understanding emphasises how authenticity, reciprocity, and intimacy shape musician-fan relationships, and how this relationship can unfold differently, depending on an artist's career phase.

5.2 Contributions to Theory and Practice

This research contributes to parasocial relationship theory, as first introduced by Horton and Wohl (1956, p. 218), by exploring their relevance in the context of musician career phases. First, the findings confirm what was found in previous research on parasocial relationships, demonstrating that intimacy, reciprocity, and authenticity are key predictors of parasocial relationship strength. These variables have previously been researched in the context of traditional celebrities and influencers (Ferchaud et al., 2018, p. 88; Reinecke & Trepte, 2014, p. 100; Xu et al., 2023, p. 382) but have rarely been explored in the specific context of musician-fan relationships. Thus, this thesis adds to the knowledge by showing that these mechanisms also hold true in more contexts than is currently known. For practitioners, particularly artist, managers, and music marketing professionals, this highlights the importance of using emotional cues in communication that resonate with fans. Artists who consistently signal intimacy, reciprocity, and authenticity towards their fans are more likely to develop deeper connections with their fans. For example, by sharing personal stories or replying to fans messages. Fan engagement strategies should be designed to communicate these signals that also feels aligned with the artist's personality and brand.

Secondly, the findings of this thesis also contribute to the theoretical and practical understanding of how parasocial influence fan behaviour. First, it supports and extends previous research that suggests that parasocial relationships are linked to behavioural outcomes (Connell et al., 2024, p. 5; Liebers & Schramm, 2019, p. 15). Prior research has often examined these effects in the context of television personalities of influencers, so this research that the same mechanism applies to musicians. This means that this research expands the current knowledge of parasocial theory into the music industry, demonstrating that emotional connection with musicians can drive fans into taking actions, such as buying concert tickets, music, or merchandise. It also highlights how parasocial relationships not only impact commercial behaviour, but also fans' self perception. Fans who reported stronger parasocial relationships, also perceived a greater sense of personal influence from the musicians. This suggest that parasocial relationships play a role in shaping identity and value alignment. This finding adds to the current theoretical model that parasocial relationships go beyond admiration and play an active role in shaping consumers. Thus, it shows that musicians are not only relevant for their music, but they are also figures capable of shaping fan identity and behaviour, and that fans often view musicians as role models who shape their values,

appearances and life decisions (Boon & Lomore, 2001, p. 433; D'Adamo, 2020, p. 62).

For practitioners, this means that fans' emotional engagement can be used as a powerful asset for cultural relevance. Artists and their teams can use this knowledge to their advantage, knowing that creating parasocial bonds can translate into increased ticket sales, merchandise purchases and music streams and sales. However, the personal influence of musicians on fans also brings responsibility. By understanding that fans internalize authentic, intimate, and reciprocal messaging of musicians, professionals can shape communication in ways that foster meaningful musician-fan relationships and increase trust.

Finally, the results of this thesis introduce new insights into how artists career phase influences the perception and effect of predictors of parasocial relationships, enriching both theoretical understanding and practical application. Previous literature has mainly focussed on parasocial relationships in the context of mainstream musicians, while very few have examined the difference between fame levels (Xu et al., 2023, p. 366). By introducing a difference between early-career musicians and mainstream musicians, the present study adds a new dimension to the existing theoretical frameworks, demonstrating that perceptions of intimacy, reciprocity, and authenticity, together with their effect on parasocial relationships, can vary based on an artist's career phase. This highlights that, while it does not moderate between all variables and parasocial relationships, career phase does significantly influence how fans perceive those predictors. For theory, these findings suggests that parasocial frameworks may benefit from incorporating social and status dimensions, since fan perceptions of intimacy, authenticity and reciprocity from an artist is not stable but can differ depending on their fame levels.

These findings are especially meaningful for early-career musicians. By emphasising authenticity, reciprocity, and intimacy, they can differentiate themselves from mainstream artists and create more powerful relationships with their fans. By incorporating these variables into their communication strategy, early-career musicians can position themselves as more 'real,' which according to these results can significantly increase parasocial relationship strength. Since these relationships then also lead to higher purchase intentions, early-career musicians can use these relationships to grow their careers. On the other hand, mainstream musicians may face challenges in maintaining the same perception of accessibility. As their fame and their exposure grows, fans start to see them as more distant, resulting in less strong parasocial relationships. This research shows that by incorporating authenticity, reciprocity, and intimacy into their communication, they can re-engage their audiences into stronger parasocial relationships. By strategically navigating the different levels of perceived authenticity across career stages, industry professionals can enhance fan engagement throughout every stage of the career of musicians.

5.3 Limitations and Further Research

First, this study used a binary distinction when looking at musician career phase, differentiating between early-career musicians and mainstream artists. While the differentiation was made based on objective indicators, such as streaming number, venue size and social media following, it inevitably simplifies the complexity of the career phases in today's music landscape. Future research could aim at adopting a more layered and dynamic approach to the operationalization of career phase. This would allow to capture fan perceptions of status, rather than relying on benchmarks to indicate fame.

Second, the study focussed on a specific set of artists and fans, namely fans of Taylor Swift, Harry Styles, Only The Poets and Alfie Jukes. These artists are all active within the Western pop and indie scene. While this allowed for controlled comparisons, it also limits the generalizability of the findings across other musical cultures. This is also reinforced by the fact that the main group of respondents is young females. Parasocial relationships may differ significantly in other genres, such as K-pop, hip-hop or Latin music, where fan engagement could be shaped by other cultural norms, expectations, platforms, and communication, or for other artists which fanbase does not consist of mainly young females. Future research could explore how the formation of parasocial relationships can differ in diverse context, and whether the mechanisms that were identified in this thesis hold across cultural boundaries.

Finally, the study employed a cross-sectional design, which captures parasocial relationships at a single point in time. While this does allow for the identification of authenticity, reciprocity, intimacy, and parasocial relationship strength, it does not allow any conclusions about change over time. Parasocial relationships are not static, in fact they can deepen, fade, or evolve in response to changes regarding the artist, or even the fan's lives (Dibble et al., 2016, p. 22–24; Hartmann & Goldhoorn, 2011, p. 1107, Reinikainen et al., 2020, p. 281; Xu et al., 2023, p. 366). Future research could adopt a longitudinal research design to examine how these parasocial relationships with musicians can develop, deepen, or fade in response to key moments in an artist's career, such as going viral, controversies, or shifts in communication style.

5.4 Conclusion

To conclude, this thesis demonstrated that parasocial relationships are not static or universal but shaped by emotional factors fans perceive. By highlighting how intimacy, authenticity and reciprocity operate, and how they differ across artist career phases, the study offers a deep understanding of fan-musician relationships in the digital era. These insights highlight the importance of approaching musicians as a multifaceted phenomenon, as they can form emotional

connections with important consequences for the fans and artist alike. As digital platforms blur the lines between artists and audiences, future research can continue to not only ask how these relationships form, but also what they mean for both the fans and the artists.

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Appendix A: Overview of scales

Parasocial interaction

[name of the celebrity] is aware of me

[name of the celebrity] knows I exist

[name of the celebrity] knows I am aware of him/her

[name of the celebrity] knows that I pay attention to him/her

[name of the celebrity] knows that I react to him/her

[name of the celebrity] reacts to what I say or do

Perceived Reciprocity

[name of the celebrity] likes the content fans post

[name of the celebrity] replies to fans' comments

[name of the celebrity] leaves comments on fans' account(s)

[name of the celebrity] shares fans' messages

[name of the celebrity] can chat with fans on social media.

Authenticity

[name of the celebrity] is an authentic person,

[name of the celebrity] is what he or she really is on social media

[name of the celebrity] doesn't pretend to be someone else when presenting him-/herself on social media

[name of the celebrity] behaves the same on social media as offline

[name of the celebrity] thinks it is more important to be him-/herself than to be popular

[name of the celebrity] does what he/she says (believes)

[name of the celebrity] whose posts are not authored by a manager/assistant

[name of the celebrity] reveals his/her true self when interacting with fans

Intimacy

My relationship with [name of the celebrity] is close

When they are offline, I miss [name of the celebrity] a great deal

[name of the celebrity] and I disclose important personal things to each other

[name of the celebrity] and I have a strong connection

[name of the celebrity] is a priority in my life

When I have free time I choose to spend it on [name of the celebrity]

I think about [name of the celebrity] a lot

My relationship with [name of the celebrity] is important in my life

I consider [name of the celebrity] when making important decisions

Purchase intentions

The likelihood of purchasing merchandise, concert tickets, or music from [name of the celebrity] is

...

If I were going to financially support [name of the celebrity], I would consider purchasing their merchandise, concert tickets, or music

The probability that I would financially support [name of the celebrity] by purchasing their merchandise, concert tickets, or music is ...

My willingness to buy merchandise, concert tickets, or music from [name of the celebrity] is ...

Influence

I have tried to change aspects of my personality to be more like them

I have tried to change my physical appearance to be more like them

I have tried to change my attitudes and values to be more like them

Their lifestyle has inspired me to pursue a particular hobby, career, or other activity

They have had a strong influence on who I am

Appendix B: Hypotheses

Hypothesis H1: Higher perceived reciprocity in a musician's interactions leads to stronger parasocial relationships.

Hypothesis H2: Higher perceived intimacy in a musician's interactions leads to stronger parasocial relationships.

Hypothesis H3: Higher perceived authenticity in a musician's interactions leads to stronger parasocial relationships.

Hypothesis H4: A stronger parasocial relationship leads to higher purchase intentions.

Hypothesis H5: Stronger parasocial relationships with a musician leads higher levels of self-reported personal influence by that musician.

Hypothesis H6: Musician career phase moderates the relationship between perceived reciprocity and parasocial relationships, such that early-career musicians experience stronger reciprocity effects of parasocial relationships compared to mainstream musicians.

Hypothesis H7: Musician career phase moderates the relationship between perceived intimacy and parasocial relationships, such that early-career musicians experience stronger intimacy effects of parasocial relationships compared to mainstream musicians.

Hypothesis H8: Musician career phase moderates the relationship between perceived authenticity and parasocial relationships, such that early-career musicians experience stronger authenticity effects of parasocial relationships compared to mainstream musicians.

Appendix C: Full questionnaire

Dear respondent,

Thank you for your interest in this research. This study is part of my research for my master thesis for Media & Creative Industries at Erasmus University. I am conducting a study on fans' emotional connections with musicians.

The questionnaire will take approximately 5-10 minutes to fill in. Please answer each question carefully and honestly, we are sincerely interested in your personal opinions. There are no right or wrong answers.

All research data remain completely confidential and are collected in anonymous form. We will not be able to identify you. There are no foreseeable risks or discomforts associated with participating in this research. If you now decide not to participate in this research, this will not affect you. If you decide to cease your cooperation while filling in the questionnaire, this will in no way affect you either. You can cease your cooperation without giving reasons.

Please only take part in this survey if you consider yourself a fan of at least one of the following artists: Taylor Swift, Harry Styles, Only The Poets, or Alfie Jukes. You will be asked to choose one of these artists, please answer all the questions about this artist.

If you understand the information above, and freely consent to participate in this study, click on the arrow below to start the questionnaire.



Please pick one of the following artists you consider yourself a fan of. If you are a fan of multiple artists, please choose the one you consider yourself the biggest fan of.

Please answer all questions in the survey about the artist you pick here.

Taylor Swift

Harry Styles

Only The Poets

Alfie Jukes



Please indicate the extent to which you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Alfie Jukes is aware of me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes knows I exist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes knows I am aware of them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes knows that I pay attention to them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes knows that I react to them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes reacts to what I say or do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Alfie Jukes likes the content other fans post	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes replies to other fans' comments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes leaves comments on other fans' accounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes shares other fans' messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes can chat with other fans on social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Please indicate the extent to which you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Alfie Jukes is an authentic person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes is who they really are on social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes doesn't pretend to be someone else when presenting themselves on social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes behaves the same on social media as offline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes thinks it is more important to be themselves than to be popular	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes does what they say (believes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes posts are not authored by a manager/assistant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes reveals their true self when interacting with fans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My relationship with Alfie Jukes is close	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When they are offline, I miss Alfie Jukes a great deal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes and I disclose important personal things to each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes and I have a strong connection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes is a priority in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
When I have free time I choose to spend it on Alfie Jukes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about Alfie Jukes a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship with Alfie Jukes is important in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider Alfie Jukes when making important decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following statements

	Extremely unlikely	Moderately unlikely	Slightly unlikely	Neither likely nor unlikely	Slightly likely	Moderately likely	Extremely likely
The likelihood of purchasing merchandise, concert tickets, or music from Alfie Jukes is ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I were going to financially support Alfie Jukes, I would consider purchasing their merchandise, concert tickets, or music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The probability that I would financially support Alfie Jukes by purchasing their merchandise, concert tickets, or music is ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My willingness to buy merchandise, concert tickets, or music from Alfie Jukes is ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Please indicate the extent to which you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have tried to change aspects of my personality to be more like Alfie Jukes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have tried to change my physical appearance or clothes to be more like Alfie Jukes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have tried to change my attitudes and values to be more like Alfie Jukes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes's lifestyle has inspired me to pursue a particular hobby, career, or other activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alfie Jukes has had a strong influence on who I am	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



How often do you engage with Alfie Jukes? (e.g. like or comment on a social media post)

<input type="radio"/> Never
<input type="radio"/> Yearly
<input type="radio"/> Monthly
<input type="radio"/> Once a week
<input type="radio"/> 2-3 times a week
<input type="radio"/> 4-6 times a week
<input type="radio"/> Daily

How often have you personally interacted with Alfie Jukes? (e.g. they wrote a comment back, talked to them in real life, they likes your post / comment)

- Never
- Yearly
- Monthly
- Once a week
- 2-3 times a week
- 4-6 times a week
- Daily

Which social media channel do you use most to engage with Alfie Jukes?

- Facebook
- Instagram
- X (formerly Twitter)
- TikTok
- other



How old are you? (in numbers)

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

If you have any comments about this research, please leave them here



Appendix D: R-output

```
> library("sandwich")
> library("readxl")
> library("tidyverse")
> library("data.table")
> library("rcompanion")
> library("psych")
> library("dplyr")
> library("emmeans")
> library("rstatix")
> library("ggplot2")
> library("car")
> library("lmodel2")
> library("sandwich")
> setwd("~/AAMCI/Thesis")
> source("process.R")
```

***** PROCESS for R Version 4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

PROCESS is now ready for use.

Copyright 2022 by Andrew F. Hayes ALL RIGHTS RESERVED
Workshop schedule at <http://haskayne.ucalgary.ca/CCRAM>

```
> Raw_data <- read_excel("clean_data.xlsx")
> Raw_data$gender<- as.factor(Raw_data$gender)
> Raw_data$socialmedia<- as.factor(Raw_data$socialmedia)
> Raw_data$Artist<- as.factor(Raw_data$Artist)
> ####differetiatie between mainstream =1 and small =2
> Raw_data <- Raw_data %>%
+   mutate(artist_num = case_when(
+     Artist == "1" ~ "1",
+     Artist == "2" ~ "1",
+     Artist == "3" ~ "2",
+     Artist == "4" ~ "2",
+     TRUE ~ "default_value"
+   )))
> Raw_data$artist_num<- as.numeric(Raw_data$artist_num)
> ####Summary statistics
> summary(Raw_data$age)
  Min. 1st Qu. Median  Mean 3rd Qu.  Max.  NA's
 14.00  20.00  22.00  22.59  23.00  66.00    7
> summary(Raw_data$gender)
  1  2  3  4 NA's
 11 129 4 1 7
> summary(Raw_data$Artist)
  1 2 3 4
  45 36 35 36
```

```

> #numbers of gender: 1 = male , 2 = female, 3= non-binary, 4= other
> table(Raw_data$gender, Raw_data$Artist)

  1 2 3 4
1 4 2 0 5
2 39 32 32 26
3 0 1 1 2
4 0 0 1 0

> #age per group:
> avg_age_per_condition <- Raw_data %>%
+   group_by(Artist) %>%
+   summarize(average_age = mean(age, na.rm = TRUE))
> print(avg_age_per_condition)
# A tibble: 4 × 2
  Artist average_age
  <fct>    <dbl>
1 1          25
2 2          20.6
3 3          21.4
4 4          22.7

> #####alphas + combinneren
> ##PSR
> alpha_psr <- Raw_data %>% select ("interaction_1",
"interaction_2","interaction_3","interaction_4","interaction_5","interaction_6")
> alpha(alpha_psr)$total
  raw_alpha std.alpha  G6(smc) average_r   S/N    ase   mean    sd median_r
  0.9608672 0.9607744 0.9662757 0.8032373 24.49359 0.005007082 3.495614 1.934919 0.794934
> Raw_data$psr_num <- ((Raw_data$`interaction_1`+ Raw_data$`interaction_2` ++
Raw_data$`interaction_3`+ Raw_data$`interaction_4` +
+           Raw_data$`interaction_5`+ Raw_data$`interaction_6`)/6)

> ##persrec
> alpha_persrec <- Raw_data %>% select ("persreciprocity_1",
"persreciprocity_2","persreciprocity_3","persreciprocity_4","persreciprocity_5")
> alpha(alpha_persrec)$total
  raw_alpha std.alpha  G6(smc) average_r   S/N    ase   mean    sd median_r
  0.9180252 0.9227602 0.9149243 0.7049572 11.94669 0.01072373 2.555263 1.647989 0.6918726
> Raw_data$persrec_num <- ((Raw_data$`persreciprocity_1`+ Raw_data$`persreciprocity_2` ++
Raw_data$`persreciprocity_3` +
+           Raw_data$`persreciprocity_4`+ Raw_data$`persreciprocity_5`)/5)

> ##fanrec
> alpha_fanrec <- Raw_data %>% select ("fanreciprocity_1",
"fanreciprocity_2","fanreciprocity_3","fanreciprocity_4","persreciprocity_5")
> alpha(alpha_fanrec)$total
  raw_alpha std.alpha  G6(smc) average_r   S/N    ase   mean    sd median_r
  0.8910434 0.9006549 0.8995905 0.644531 9.065925 0.01476998 4.419737 1.557679 0.6860445
> Raw_data$fanrec_num <- ((Raw_data$`fanreciprocity_1`+ Raw_data$`fanreciprocity_2` ++
Raw_data$`fanreciprocity_3` +
+           Raw_data$`fanreciprocity_4`+ Raw_data$`fanreciprocity_5`)/5)

> ##aut
> alpha_aut <- Raw_data %>% select ("authenticity_1",
"authenticity_2","authenticity_3","authenticity_4","authenticity_5","authenticity_6",
+           "authenticity_7", "authenticity_8")

```

```

> alpha(alpha_aut)$total
raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.9037937 0.9098364 0.9149785 0.5577898 10.09095 0.01165987 5.449013 1.103816 0.5796903
> Raw_data$aut_num <- ((Raw_data$`authenticity_1`+ Raw_data$`authenticity_2`+
Raw_data$`authenticity_3`+ Raw_data$`authenticity_4`+
+ Raw_data$`authenticity_5`+ Raw_data$`authenticity_6`+
Raw_data$`authenticity_7`+ Raw_data$`authenticity_8`)/8)
> #int
> alpha_int <- Raw_data %>% select ("intimacy_1",
"intimacy_2","intimacy_3","intimacy_4","intimacy_5","intimacy_6",
+ "intimacy_7", "intimacy_8","intimacy_9")
> alpha(alpha_int)$total
raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.9479902 0.9478507 0.9566233 0.6688221 18.17573 0.006392861 3.618421 1.682348 0.6841191
> Raw_data$int_num <- ((Raw_data$`intimacy_1`+ Raw_data$`intimacy_2`+
Raw_data$`intimacy_3`+ Raw_data$`intimacy_4`+
+ Raw_data$`intimacy_5`+ Raw_data$`intimacy_6`+ Raw_data$`intimacy_7`+
Raw_data$`intimacy_8`+ Raw_data$`intimacy_9`)/9)
> ##Purchint
> alpha_purchint <- Raw_data %>% select ("purchint_1", "purchint_2","purchint_3","purchint_4")
> alpha(alpha_purchint)$total
raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.9527909 0.9539782 0.9470627 0.8382454 20.72882 0.006364432 6.159539 1.388979 0.8546886
> Raw_data$purchint_num <- ((Raw_data$`purchint_1`+ Raw_data$`purchint_2` ++
Raw_data$`purchint_3`+ Raw_data$`purchint_4`)/4)
> ##influence
> alpha_infl <- Raw_data %>% select ("influence_1",
"influence_2","influence_3","influence_4","influence_5")
> alpha(alpha_infl)$total
raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.8976434 0.8991293 0.8864656 0.6406414 8.91368 0.0133402 3.280822 1.559943 0.6215198
> Raw_data$infl_num <- ((Raw_data$`influence_1`+ Raw_data$`influence_2` ++
Raw_data$`influence_3`+ Raw_data$`influence_4`+
+ Raw_data$`influence_5`)/5)
> #check if PSR is similar for small / mainstream
> # Filter to small artists
> small_data <- Raw_data %>% filter(artist_num == "2")
> # Compare PSR between the two small artists (3 and 4)
> t.test(psr_num ~ Artist, data = small_data)

```

Welch Two Sample t-test

```

data: psr_num by Artist
t = 1.9667, df = 63.569, p-value = 0.05359
alternative hypothesis: true difference in means between group 3 and group 4 is not equal to 0
95 percent confidence interval:
-0.0106198 1.3442177
sample estimates:
mean in group 3 mean in group 4
5.171429 4.504630

```

```
> tapply(small_data$psr_num, small_data$Artist, sd)
```

```

1   2   3   4
NA   NA 1.180925 1.644368
> #mainstream:
> main_data <- Raw_data %>% filter(artist_num == "1")
> t.test(psr_num ~ Artist, data = main_data)

Welch Two Sample t-test

data: psr_num by Artist
t = 0.51879, df = 75.434, p-value = 0.6054
alternative hypothesis: true difference in means between group 1 and group 2 is not equal to 0
95 percent confidence interval:
-0.4916668 0.8379631
sample estimates:
mean in group 1 mean in group 2
2.400000 2.226852

> tapply(main_data$psr_num, main_data$Artist, sd)
      1   2   3   4
1.500168 1.486528 NA   NA
> Raw_data %>%
+   group_by(artist_num) %>%
+   summarise(
+     mean_intimacy = mean(int_num, na.rm = TRUE),
+     sd_intimacy = sd(int_num, na.rm = TRUE),
+     mean_reciprocity = mean(fanrec_num, na.rm = TRUE),
+     sd_reciprocity = sd(fanrec_num, na.rm = TRUE),
+     mean_authenticity = mean(aut_num, na.rm = TRUE),
+     sd_authenticity = sd(aut_num, na.rm = TRUE)
+   )
# A tibble: 2 × 7
  artist_num mean_intimacy sd_intimacy mean_reciprocity sd_reciprocity mean_authenticity
  <dbl>        <dbl>      <dbl>        <dbl>      <dbl>        <dbl>
1 1            3.12       1.49        3.92       1.51       4.99       1.08
2 2            4.19       1.71        5.66       1.03       5.97       0.881
> #H1 reciprocity PSR
> model1 <- lm(psr_num ~ persrec_num, data = Raw_data)
> #assumption for regression:
> bptest(model1)

```

studentized Breusch-Pagan test

```

data: model1
BP = 3.1749, df = 1, p-value = 0.07478

> #normality
> residuals1 <- resid(model1)
> shapiro.test(residuals1)

```

Shapiro-Wilk normality test

```

data: residuals1
W = 0.95763, p-value = 0.0001338

> summary(model1)

Call:
lm(formula = psr_num ~ persrec_num, data = Raw_data)

Residuals:
    Min    1Q Median    3Q    Max
-2.2389 -1.0428 -0.1327  0.8174  3.2099

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) 1.10874   0.17643  6.284 3.39e-09 ***
persrec_num 0.93410   0.05808 16.083 < 2e-16 ***
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.176 on 150 degrees of freedom
Multiple R-squared: 0.6329,   Adjusted R-squared: 0.6305
F-statistic: 258.7 on 1 and 150 DF, p-value: < 2.2e-16

> #fan reciprocity
> model12 <- lm(psr_num ~ fanrec_num, data = Raw_data)
> #assumption for regression:
> bptest(model12)

    studentized Breusch-Pagan test

data: model12
BP = 0.49184, df = 1, p-value = 0.4831

> #normality
> residuals12 <- resid(model12)
> shapiro.test(residuals12)

    Shapiro-Wilk normality test

data: residuals12
W = 0.97207, p-value = 0.003469

> summary(model12)

Call:
lm(formula = psr_num ~ fanrec_num, data = Raw_data)

Residuals:
    Min    1Q Median    3Q    Max
-3.4940 -1.3438  0.2735  1.0312  3.0504

Coefficients:

```

```

  Estimate Std. Error t value Pr(>|t|)
(Intercept) -0.22388  0.38726 -0.578  0.564
fanrec_num  0.78632  0.07774 10.114 <2e-16 ***
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1

Residual standard error: 1.497 on 150 degrees of freedom
Multiple R-squared: 0.4055,   Adjusted R-squared: 0.4015
F-statistic: 102.3 on 1 and 150 DF, p-value: < 2.2e-16

```

```

> #h2 intimacy
> model2 <- lm(psr_num ~ int_num, data = Raw_data)
> #assumption for regression:
> bptest(model2)

```

studentized Breusch-Pagan test

```

data: model2
BP = 0.046038, df = 1, p-value = 0.8301

```

```

> #normality
> residuals2 <- resid(model2)
> shapiro.test(residuals2)

```

Shapiro-Wilk normality test

```

data: residuals2
W = 0.99285, p-value = 0.6527

```

```

> summary(model2)

```

Call:
`lm(formula = psr_num ~ int_num, data = Raw_data)`

Residuals:

Min	1Q	Median	3Q	Max
-3.7387	-0.9055	0.1216	0.9776	3.9401

Coefficients:

```

  Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.70206  0.27759  2.529  0.0125 *
int_num    0.77204  0.06961 11.091 <2e-16 ***
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1

```

```

Residual standard error: 1.439 on 150 degrees of freedom
Multiple R-squared: 0.4506,   Adjusted R-squared: 0.4469
F-statistic: 123 on 1 and 150 DF, p-value: < 2.2e-16

```

```

> #h3 authenticity
> model3 <- lm(psr_num ~ aut_num, data = Raw_data)
> #assumption for regression:

```

```

> bptest(model3)

  studentized Breusch-Pagan test

data: model3
BP = 0.83696, df = 1, p-value = 0.3603

> #normality
> residuals3 <- resid(model3)
> shapiro.test(residuals3)

  Shapiro-Wilk normality test

data: residuals3
W = 0.9898, p-value = 0.3397

> summary(model3)

Call:
lm(formula = psr_num ~ aut_num, data = Raw_data)

Residuals:
    Min     1Q Median     3Q    Max
-3.8575 -0.9936  0.1535  1.1425  3.8436

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) -2.2084    0.6382  -3.460 0.000702 ***
aut_num      1.0468    0.1148   9.118 4.65e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.557 on 150 degrees of freedom
Multiple R-squared:  0.3566,    Adjusted R-squared:  0.3523 
F-statistic: 83.14 on 1 and 150 DF,  p-value: 4.649e-16

> #h4 purch int
> model4 <- lm(purchint_num ~ psr_num, data = Raw_data)
> #assumption for regression:
> bptest(model4)

  studentized Breusch-Pagan test

data: model4
BP = 22.706, df = 1, p-value = 1.888e-06

> #normality
> residuals4 <- resid(model4)
> shapiro.test(residuals4)

  Shapiro-Wilk normality test

```

```
data: residuals4
W = 0.82847, p-value = 4.642e-12

> Raw_data$log_psr <- log(Raw_data$psr_num)
> model4 <- lm(purchint_num ~ log_psr, data = Raw_data)
> summary(model4)
```

Call:
lm(formula = purchint_num ~ log_psr, data = Raw_data)

Residuals:

Min	1Q	Median	3Q	Max
-4.7373	-0.3603	0.2419	0.6878	1.6635

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	5.3365	0.1933	27.60	< 2e-16 ***
log_psr	0.7815	0.1544	5.06	1.21e-06 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.288 on 150 degrees of freedom
Multiple R-squared: 0.1458, Adjusted R-squared: 0.1401
F-statistic: 25.6 on 1 and 150 DF, p-value: 1.211e-06

```
> #H5 infl.
> model5 <- lm(infl_num ~ psr_num, data = Raw_data)
> #assumption for regression:
> bptest(model5)
```

studentized Breusch-Pagan test

```
data: model5
BP = 2.7108, df = 1, p-value = 0.09967
```

```
> #normality
> residuals5 <- resid(model5)
> shapiro.test(residuals5)
```

Shapiro-Wilk normality test

```
data: residuals5
W = 0.97628, p-value = 0.01237
```

```
> summary(model5)
```

Call:
lm(formula = infl_num ~ psr_num, data = Raw_data)

Residuals:

Min	1Q	Median	3Q	Max
-2.8643	-1.2095	-0.1362	1.1335	2.9892

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	2.15194	0.24458	8.799	3.91e-15 ***
psr_num	0.32107	0.06084	5.278	4.72e-07 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.433 on 144 degrees of freedom

(6 observations deleted due to missingness)

Multiple R-squared: 0.1621, Adjusted R-squared: 0.1563

F-statistic: 27.85 on 1 and 144 DF, p-value: 4.719e-07

> #H7 t-test

> leveneTest(int_num ~ factor(artist_num), data = Raw_data)

Levene's Test for Homogeneity of Variance (center = median)

Df F value Pr(>F)

group 1 2.2662 0.1343

150

> shapiro.test(Raw_data\$int_num[Raw_data\$artist_num == "1"])

Shapiro-Wilk normality test

data: Raw_data\$int_num[Raw_data\$artist_num == "1"]

W = 0.95772, p-value = 0.009181

> shapiro.test(Raw_data\$int_num[Raw_data\$artist_num == "2"])

Shapiro-Wilk normality test

data: Raw_data\$int_num[Raw_data\$artist_num == "2"]

W = 0.91867, p-value = 0.0002074

> t.test(int_num~artist_num, data = Raw_data, var.equal = TRUE)

Two Sample t-test

data: int_num by artist_num

t = -4.1443, df = 150, p-value = 5.677e-05

alternative hypothesis: true difference in means between group 1 and group 2 is not equal to 0

95 percent confidence interval:

-1.5908731 -0.5636508

sample estimates:

mean in group 1 mean in group 2

3.115226 4.192488

> tapply(Raw_data\$int_num, Raw_data\$artist_num, sd)

1 2

1.491172 1.713723

> #reciprocity

> model62 <- lm(psr_num ~ fanrec_num * artist_num, data = Raw_data)

```

> #assumption for regression:
> bptest(model62)

    studentized Breusch-Pagan test

data: model62
BP = 12.685, df = 3, p-value = 0.00537

> #normality
> residuals62 <- resid(model62)
> shapiro.test(residuals62)

    Shapiro-Wilk normality test

data: residuals62
W = 0.99252, p-value = 0.6139

> process(data = Raw_data, y = "psr_num", x = "fanrec_num", w = "artist_num", model = 1, jn = 1)

***** PROCESS for R Version 4.1 *****


```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

 Model : 1

Y : psr_num
 X : fanrec_num
 W : artist_num

Sample size: 152

 Outcome Variable: psr_num

Model Summary:

R	R-sq	MSE	F	df1	df2	p
0.7433	0.5525	1.7095	60.8995	3.0000	148.0000	0.0000

Model:

	coeff	se	t	p	LLCI	ULCI
constant	1.6768	1.1915	1.4073	0.1614	-0.6778	4.0313
fanrec_num	-0.1100	0.2460	-0.4470	0.6556	-0.5961	0.3762
artist_num	-0.7540	0.9611	-0.7846	0.4340	-2.6532	1.1451
Int_1	0.4673	0.1798	2.5985	0.0103	0.1119	0.8227

Product terms key:

Int_1 : fanrec_num x artist_num

Test(s) of highest order unconditional interaction(s):

```
R2-chng      F      df1      df2      p
X*W  0.0204  6.7523  1.0000 148.0000  0.0103
```

Focal predictor: fanrec_num (X)
Moderator: artist_num (W)

Conditional effects of the focal predictor at values of the moderator(s):

artist_num	effect	se	t	p	LLCI	ULCI
1.0000	0.3574	0.0969	3.6870	0.0003	0.1658	0.5489
2.0000	0.8247	0.1515	5.4439	0.0000	0.5253	1.1240

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output: 95

```
> #H7
> model7 <- lm(psr_num ~ int_num * artist_num, data = Raw_data)
> #assumption for regression:
> bptest(model7)
```

studentized Breusch-Pagan test

```
data: model7
BP = 45.337, df = 3, p-value = 7.845e-10
```

```
> Raw_data$logint_num <- log(Raw_data$int_num)
> #normality
> residuals7 <- resid(model7)
> shapiro.test(residuals7)
```

Shapiro-Wilk normality test

```
data: residuals7
W = 0.99264, p-value = 0.6281
```

```
> #intimacy
> process(data = Raw_data, y = "psr_num", x = "logint_num", w = "artist_num", model = 1, jn = 1)
```

***** PROCESS for R Version 4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
Y : psr_num
X : logint_num
W : artist_num

Sample size: 152

```
*****
```

Outcome Variable: psr_num

Model Summary:

R	R-sq	MSE	F	df1	df2	p
0.8018	0.6429	1.3641	88.8105	3.0000	148.0000	0.0000

Model:

	coeff	se	t	p	LLCI	ULCI
constant	-0.5194	0.6491	-0.8002	0.4249	-1.8022	0.7633
logint_num	0.9358	0.5345	1.7507	0.0821	-0.1205	1.9920
artist_num	1.4180	0.4549	3.1175	0.0022	0.5192	2.3168
Int_1	0.4887	0.3490	1.4003	0.1635	-0.2009	1.1782

Product terms key:

Int_1 : logint_num x artist_num

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p
X*W	0.0047	1.9609	1.0000	148.0000
				0.1635

```
***** ANALYSIS NOTES AND ERRORS *****
```

Level of confidence for all confidence intervals in output: 95

> #H8:

```
> model8 <- lm(psr_num ~ aut_num * artist_num, data = Raw_data)
> #assumption for regression:
> bptest(model8)
```

studentized Breusch-Pagan test

```
data: model8
BP = 15.648, df = 3, p-value = 0.001339
```

```
> Raw_data$logaut_num <- log(Raw_data$aut_num)
> #normality
> residuals8 <- resid(model8)
> shapiro.test(residuals8)
```

Shapiro-Wilk normality test

```
data: residuals8
W = 0.98261, p-value = 0.05215
```

```
> process(data = Raw_data, y = "psr_num", x = "logaut_num", w = "artist_num", model = 1, jn = 1)
```

```
***** PROCESS for R Version 4.1 *****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

```
*****
```

Model : 1

Y : psr_num
X : logaut_num
W : artist_num

Sample size: 152

Outcome Variable: psr_num

Model Summary:

R	R-sq	MSE	F	df1	df2	p
0.7345	0.5395	1.7590	57.7990	3.0000	148.0000	0.0000

Model:

	coeff	se	t	p	LLCI	ULCI
constant	2.5841	2.2926	1.1271	0.2615	-1.9464	7.1146
logaut_num	-1.1959	1.3708	-0.8724	0.3844	-3.9048	1.5131
artist_num	-2.8787	1.7404	-1.6541	0.1002	-6.3179	0.5605
Int_1	2.8561	1.0047	2.8426	0.0051	0.8705	4.8416

Product terms key:

Int_1 : logaut_num x artist_num

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	0.0251	8.0802	1.0000	148.0000	0.0051

Focal predictor: logaut_num (X)

Moderator: artist_num (W)

Conditional effects of the focal predictor at values of the moderator(s):

	artist_num	effect	se	t	p	LLCI	ULCI
1.0000	1.6602	0.5384	3.0835	0.0024	0.5962	2.7242	
2.0000	4.5162	0.8483	5.3238	0.0000	2.8399	6.1926	

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output: 95

>

Appendix E: AI Statement

Declaration Page: Use of Generative AI Tools in Thesis

Student Information

Name: Sanne Holleman

Student ID: 579674

Course Name: Master Thesis CM5000

Supervisor Name: Jinju Muraro Kim

Date: 25-06-2025

Declaration:

Acknowledgment of Generative AI Tools

I acknowledge that I am aware of the existence and functionality of generative artificial intelligence (AI) tools, which are capable of producing content such as text, images, and other creative works autonomously.

GenAI use would include, but not limited to:

- Generated content (e.g., ChatGPT, Quillbot) limited strictly to content that is not assessed (e.g., thesis title).
- ~~Writing improvements, including~~ grammar and spelling corrections (e.g., Grammarly)
- Language translation (e.g., DeepL), without generative AI alterations/improvements.
- Research task assistance (e.g., finding survey scales, qualitative coding verification, debugging code)
- Using GenAI as a search engine tool to find academic articles or books (e.g.,

I declare that I have used generative AI tools, specifically ChatGPT and Copilot in the process of creating parts or components of my thesis. The purpose of using these tools was to aid in generating content or assisting with specific aspects of thesis work.

Extent of AI Usage

I confirm that while I utilized generative AI tools to aid in content creation, the majority of the intellectual effort, creative input, and decision-making involved in completing the thesis were undertaken by me. I have enclosed the prompts/logging of the GenAI tool use in an appendix.

I declare that I have NOT used any generative AI tools and that the assignment concerned is my original work.

Signature: [digital signature]

Date of Signature: [Date of Submission]

Ethical and Academic Integrity

I understand the ethical implications and academic integrity concerns related to the use of AI tools in coursework. I assure that the AI-generated content was used responsibly, and any content derived from these tools has been appropriately cited and attributed according to the guidelines provided by the instructor and the course. I have taken necessary steps to distinguish between my original work and the AI-generated contributions. Any direct quotations, paraphrased content, or other forms of AI-generated material have been properly referenced in accordance with academic conventions.

By signing this declaration, I affirm that this declaration is accurate and truthful. I take full responsibility for the integrity of my assignment and am prepared to discuss and explain the role of generative AI tools in my creative process if required by the instructor or the Examination Board. I further affirm that I have used generative AI tools in accordance with ethical standards and academic integrity expectations.

Signature: Sanne Holleman

Date of Signature: 25-06-2025

A: Logging:

Q: how to fix this error: > #autenticity > process_aut <- process(data = Raw_data, y = "psr_num", x = "aut_num", w = "artist_group", model = 1, jn = 1) Error in descdat[(low + 1), 1] - descdat[low, 1] : non-numeric argument to binary operator In addition: Warning messages: 1: In mean.default(descdat) : argument is not numeric or logical: returning NA 2: In var(if (is.vector(x) || is.factor(x)) x else as.double(x), na.rm = na.rm) : NAs introduced by coercion

A:

The error you're seeing:

vbnr

KopiërenBewerken

non-numeric argument to binary operator

along with the warnings about mean.default() and var() suggests that the variable you're passing to the process() function — likely aut_num, psr_num, or artist_group — is **not in numeric format**, even though it needs to be.

How to fix it

Make sure all relevant variables are **numeric**, especially:

- y (dependent variable)
- x (independent variable)
- w (moderator)

Use str(Raw_data) to check data types. Then convert if needed:

r

KopiërenBewerken

```
Raw_data$psr_num <- as.numeric(Raw_data$psr_num)
```

```
Raw_data$aut_num <- as.numeric(Raw_data$aut_num)
```

```
Raw_data$artist_group <- as.numeric(as.character(Raw_data$artist_group)) # if it's a factor with
numeric labels
```

⚠ If artist_group is categorical (e.g., "mainstream", "small"), process() may expect it coded as 0/1 (or 1/2), **not text labels**. In that case:

r

KopiërenBewerken

```
Raw_data$artist_group <- ifelse(Raw_data$artist_group == "mainstream", 1, 0)
```

Why this happens

The process() function likely uses internal operations (e.g., computing means, differences) that **fail on non-numeric values**, like characters or improperly formatted factors.

Let me know if you want help with recoding variables or checking variable types.

Q:

how to fix this? > leveneTest(psr_num ~ artist_num, data = Raw_data) Error in leveneTest.formula(psr_num ~ artist_num, data = Raw_data) : Levene's test is not appropriate with quantitative explanatory variables.

A:

You're getting this error because **Levene's test requires a categorical explanatory variable**, but artist_num in your data is probably coded as **numeric** (e.g., "1", "2", etc.), which R treats as **quantitative**.

Fix: Convert artist_num to a factor

You can do this directly in the function:

r

KopiërenBewerken

```
leveneTest(psr_num ~ factor(artist_num), data = Raw_data)
```

Or convert it in your data frame beforehand:

r

KopiërenBewerken

```
Raw_data$artist_num <- as.factor(Raw_data$artist_num)
```

```
leveneTest(psr_num ~ artist_num, data = Raw_data)
```

This will now treat artist_num as a **grouping variable**, which is what Levene's test needs to check for **equality of variances across groups**.

Let me know if you'd like help with interpreting the test output or visualizing group variances.

Q:

how to do a shapiro test before a t-test where i see if authenticity differs per artist group?

A:

To check **normality with a Shapiro-Wilk test** before running a **t-test comparing authenticity (e.g., aut_num) between artist groups**, follow these steps in R:

◆ **1. Check normality within each group**

Assuming artist_num is your grouping variable (e.g., "mainstream" vs "small") and aut_num is your dependent variable:

r

KopiërenBewerken

```
# For group 1
```

```
shapiro.test(Raw_data$aut_num[Raw_data$artist_num == "1"])
```

```
# For group 2
```

```
shapiro.test(Raw_data$aut_num[Raw_data$artist_num == "2"])
```

Replace "1" and "2" with your actual group values (e.g., "mainstream", "small") if using labels.

◆ **2. Based on the results:**

- If **both groups are normally distributed** ($p > 0.05$), you can use a **regular t-test**:

r

KopiërenBewerken

```
t.test(aut_num ~ artist_num, data = Raw_data)
```

- If **either group violates normality** ($p < 0.05$), use the **non-parametric alternative**:

r

KopiërenBewerken

```
wilcox.test(aut_num ~ artist_num, data = Raw_data)
```

Q: Can you find sources i can use to add additional variables to my survey? please find papers where these variables where used in a survey about parasocial relationships

A:

To improve your survey and address the feedback about including more variables beyond PSI/R (Parasocial Interaction/Relationship) and Buying Intention, here are several evidence-based variables and sources you can draw from:

◆ **1. Motivations for Following Small vs. Big Artists**

Motivations are frequently studied in parasocial research to understand why individuals engage with media figures.

- **Source:** Rubin, Perse, & Powell (1985) – developed a scale measuring viewer motivations (e.g., companionship, entertainment, social interaction).

- **Example Motivation Variables:**
 - Entertainment
 - Social companionship
 - Personal identity reinforcement
 - Escapism
- **Use in context:** Compare motivations between fans of small and big artists by adapting these variables.

Relevant Study:

- **Cohen (2004)** studied motivations behind parasocial relationships and found that attachment style and viewer motives (e.g., loneliness, identification) are key predictors .

◆ **2. Satisfaction**

This captures how gratified or fulfilled individuals feel from their parasocial interactions.

- **Source:** Auter & Palmgreen (2000) – extended the uses and gratifications framework to parasocial interactions.
- **Satisfaction Items:**
 - “Following this artist makes me feel connected.”
 - “I feel emotionally rewarded after engaging with this artist’s content.”
- You can operationalize satisfaction by measuring affective outcomes of the relationship.

Relevant Study:

- **Tsay-Vogel & Schwartz (2021)** found that satisfaction mediated the link between PSI and continued engagement .

◆ **3. Engagement Types: Identity, Community, Expression**

Based on your mention of Dibble et al. (2016), here are engagement dimensions often included:

- **Identity Expression:**
 - Feeling that the artist expresses values or beliefs important to the follower.
- **Community Involvement:**
 - Perception of being part of a fan community or collective experience.
- **Behavioral Engagement:**
 - Likes, shares, comments, or attending events.

Relevant Study:

- **Dibble, Hartmann, & Rosaen (2016)** emphasize *parasocial breakup* and *emotional engagement* as distinct constructs beyond PSI/R .

◆ **Suggestions for Your Survey Update:**

You can add sections like:

- **Motivational Items** (drawn from Rubin et al., Cohen, and Auter & Palmgreen)
- **Satisfaction Scale** (using affective and cognitive gratification)
- **Engagement Styles** (from Dibble et al. and fan community literature)

Would you like help formulating new Likert-scale items or adapting these sources into your current survey design?