

EXCLUDED BUT EMPOWERED: HOW SOCIAL EXCLUSION DRIVES  
RESPONSIBLE INVESTMENT PREFERENCE

by

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We are all Treaty people.

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## **ABSTRACT**

Social exclusion is a common experience that can have impacts on our daily life, such as choosing a product, joining a group or even our risk tolerance and financial decision-making. This study investigates the relationship between social exclusion and responsible investment, as well as the role of altruistic desire and self-esteem in this relationship. Using a sample of 375 participants recruited from Prolific, participants were randomly assigned to either a socially excluded or control condition and presented with either a conventional or responsible investment advertisement. The research aims to demonstrate that offering responsible investment as a means of alleviating negative feelings arising from social exclusion can be an effective coping mechanism compared to conventional investment. Results show that socially excluded people are more open to responsible investment than conventional investment and this difference has disappeared for those who did not experience social exclusion. The result did not find any evidence to support the role of altruistic desire and self-esteem in this relationship.

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## CHAPTER 1 INTRODUCTION

Everyone may have encountered the painful experience of relationship breakdowns, like feeling sidelined by colleagues during meetings or receiving rejection letters from a dream company or university. These situations can evoke emotions of being unwanted, neglected, or dismissed. Researchers estimate that over the course of our lives, we may face around 25,000 instances of rejection (Zadro & Gonsalkorale, 2014). However, the yearning for social connections remains a fundamental human need. The presence of social exclusion acts as a significant barrier to this intrinsic motivation and profoundly impacts both the psychological and physiological well-being of individuals. For instance, social exclusion can impair an individual's cognitive abilities (Baumeister et al., 2002), plunge them into feelings of numbness (Williams et al., 2000), negativity towards others (Chen et al. 2017; Zhou et al. 2017), and a sense of purposelessness (Twenge et al., 2003), disrupt their self-regulation (Williams et al., 2000), and hinder their logical reasoning skills.

The extensive prevalence of social exclusion and its profound consequences have generated sustained attention and discourse across various research domains. Over the past two decades, researchers from diverse fields, including social psychology, political economy, and marketing, have conducted comprehensive investigations into the phenomenon of social exclusion. In the context of marketing, social exclusion takes on various forms, such as the perceived superiority conveyed by luxury advertisements (Ma et al., 2014), neglect by service personnel (Yang, 2019), and the act of ignoring a group of people, all representing instances of rejection. Research has also explored the impact

of social exclusion on consumer behavior. Their findings indicate that individuals who feel excluded are more likely to spend on products that symbolize group membership (Mead et al., 2011) compared to those who haven't experienced exclusion. They also display a heightened focus on themselves and a strong desire for external attention while emphasizing their uniqueness (Wan et al., 2014). Another group of researchers found that socially excluded individuals tend to gravitate towards anthropomorphized brands to compensate for their lack of social connection (Chen et al., 2017; Mourey et al., 2017). Additionally, these individuals often exhibit increased prosocial behavior (Mead et al., 2011; Lee and Shrum, 2012), such as a greater willingness to help others and engage in charitable activities.

In recent years, the exploration of various aspects of social exclusion and its consequences has extended beyond consumer buying behavior and gained prominence in the realm of financial decision-making. Research indicates (Duclos et al., 2012) that individuals experiencing social exclusion are inclined to pursue riskier yet potentially more lucrative financial opportunities, and this heightened risk-taking behavior is attributed to their perception of money as a means to compensate for a lack of social acceptance. Consequently, the pursuit of wealth often leading them to a riskier but potentially more rewarding path.

While previous research has delved into the influence of social exclusion on various consumer responses and financial decision-making, most studies have primarily focused on how exclusion satisfies individuals' immediate needs. Interestingly, there is a notable gap in research when it comes to understanding how social exclusion may impact individuals' investment decisions. In contrast to traditional consumption behavior, where



individuals typically purchase products and promptly experience the rewards, investment decisions involve a temporal delay during which individuals must wait for the fruition of outcomes (Chun & Johnson, 2021). Thus, the responses of excluded individuals to investment choices remain an uncharted area awaiting exploration. This study addresses two major gaps in the literature: a) it delves deeper into socially excluded individuals' investment attitudes and preferences.; and b) it extends Lee & Shrum's Differential Needs theory by testing a completely new context which allows us to gain insights into what happens when immediate gratification is delayed.

Previous studies also have identified the consumption of green products as a pro-social behavior linked to individuals who prioritize environmental values (Harbo et al., 2017). This type of consumption is considered pro-social because it aligns with environmental values and contributes to sustainability (Gurbuz and Yildiz, 2019; Li et al., 2021). The shifting landscape of consumer behavior shows a substantial increase in public interest in green product consumption. As a result, it becomes crucial to redirect our focus from general investment attitudes and preferences towards a more in-depth look at responsible investment. The evolving trend encapsulated in the investment philosophy is interchangeably called as Responsible Investment (RI) or socially responsible investment (SRI). RI considers factors such as social responsibility, environmental sustainability, and governance practices in investment decision-making (RiA Canada, 2022). Beyond merely riding the wave of public interest in the green "buzzword," the history of responsible investment (RI) traces back to the early 20th century when shareholders began removing stocks from their portfolios for ethical reasons (Renneboog et al., 2008). This research conducted by Renneboog (2008) offers a valuable historical

background on responsible investment practices, highlighting their origins and growth over time.

According to Renneboog (2008), over the years RI has evolved with sustainability a central concern which is driven by personal ethics and social convictions. Social campaigns, such as those against the Vietnam War and apartheid in South Africa, played a role in shaping SRI (Sparkes, 2002, p. 54). Environmental disasters in the late 1980s, such as the Chernobyl nuclear disaster and Exxon Valdez oil spill, further raised awareness about environmental impacts. As a result, the RI industry has seen significant global growth since the early 1990s (Co-operative Bank, 2006). Ethical consumerism, where consumers pay more for products aligned with their values, has contributed to this growth (Strong, 1996). Modern RI screens encompass a wide range of criteria, including environmental protection, human rights, labor relations, corporate governance, and sustainability (Heinkel et al., 2001; Hong & Kacperczyk, 2009; Dam, 2008). In recent years, RI has gained substantial momentum, with significant growth in Europe and the USA, and the COVID-19 pandemic further accelerated its growth (Social Investment Forum, 2010).

Given the existing gap in the literature concerning the influence of social exclusion on individuals' investment decisions, particularly in the context of responsible investment, this research aims to investigate how feelings of social exclusion may interplay with positive reaction to responsible investment and affect investment decisions. It also takes into account the potential underlying mechanism that is the mediating role of the desire for altruism, and the moderating role of self-esteem. Specifically, this study seeks to address these questions: (1) How does social exclusion

affect individuals' reaction to responsible investment? (2) To what extent does the desire for altruism mediate the relationship between social exclusion and reaction to responsible investment? (3) How does the effect of trait self-esteem on the relationship between social exclusion and reaction to responsible investment differ for individuals with high and low levels of self-esteem? Through the finding of this research, it is expected to contribute to the body of literature on responsible investment and social exclusion and shed lights on how to promote responsible investment strategies to those who often feel socially excluded, ultimately contributing to a more inclusive and sustainable society.

## CHAPTER 2 LITERATURE REVIEW

In this section, a comprehensive literature review on social exclusion, exploring its mechanisms and delving into the profound impact of social exclusion on consumption responses has been conducted. Additionally, the existing body of literature on financial decision-making within the investment context is explored, focusing on the significance of scrutinizing responsible investment in response to social exclusion coping strategies as opposed to conventional investment. The review also encompassed an exploration of prosocial behavior, altruism, and the responsible investment approach, establishing the interconnectedness of these concepts. Subsequently, the desire for altruism is proposed as an underlying mechanism propelling excluded individuals towards choosing responsible investment over conventional alternatives. Lastly, the boundary conditions by reviewing the literature on self-esteem and presenting arguments on how individual self-esteem levels may influence investment decisions is examined. Building on these insights, hypotheses are formulated, including the main hypothesis, the mediating effects, and the moderating effects.

### 2.1 Social Exclusion

Belongingness is a fundamental human need that drives people to form and maintain social connections with others (Mead et al., 2011). However, social exclusion, which refers to the feelings of rejection, isolation, and neglect that arise from being excluded from social groups or activities, can threaten this need for social connection and belongingness (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Kwilinski, Vyshnevskiy and Dzwigol, 2020; Sjästad, Zhang, Masvie, and Baumeister, 2021; Williams, 2007). Nowadays, social exclusion is a common experience that extends beyond vulnerable

individuals. With the personalization of modern society, the rise in single-person households, and social distancing measures during the COVID-19 pandemic, incidents of feeling excluded or rejected have become increasingly prevalent (Yu & Han, 2021).

In the exploration of social exclusion within existing literature, a comprehensive understanding of the intricate dynamics involving cognitive, emotional, and behavioral responses has been a central focus. The foundational contributions of Williams (2007a and 2009), along with the influential work by Richman and Leary in 2009, have provided a conceptual framework on how individuals respond to social exclusion. These studies notably categorize responses as either prosocial or antisocial, underscoring the crucial role of threatened needs in shaping the reactions of socially excluded individuals. Building upon this foundational framework, Richman and Leary's (2009) multi-motive model enriches the categorization by proposing a nuanced link between responses and the way individuals construe the rejection experience. According to this model, social exclusion can elicit prosocial, antisocial, or avoidant behaviors, contingent upon the subjective interpretation of the rejection. This nuanced perspective recognizes the diversity of responses that can emerge in the aftermath of social exclusion, acknowledging that individuals may adopt various strategies to cope with the challenges posed by rejection. While reviewing previous literature, current research tries to understand the circumstances under which consumers may exhibit prosocial behavior but not act antisocial. It has been shown that such behavior actually depends on the type of needs that have been threatened. That is, the need for belongingness and affiliation activates one kind of behavior whereas need for power activates another kind of behaviour (Lee & Shrum, 2012). This happens depending on the nature of the exclusion

of exclusion manipulations they undergo. For example, when participants were subjected to a future exclusion scenario, particularly imaginary scenarios (e.g., envisioning ending up alone in the future), this activated aggression, prompting to antisocial behavior (Twenge et al., 2001, 2004, 2007). Another group of researchers used an actual exclusion situation (e.g., priming their past exclusion experience or Cyberball that is an online ball tossing game to manipulate momentary feeling of exclusion) leading individuals to engage in prosocial behavior as a means to restore social acceptance (Mead et al., 2011; Lee & Shrum, 2012). Previous research suggests that when people think about exclusion experience (e.g., imaginary future exclusion), the real effects of exclusion may not be felt because it may not impair the logical reasoning; whereas when it comes to the actual feeling exclusion, people may connect to what exclusion experience feels like because it impairs their logical reasoning and activates needs for belongingness (Rawat et al., 2022).

Furthermore, Riva's 2016 model expands the categorization of responses by introducing cognitive-behavioral and approach-avoidance dimensions. Moving beyond a simplistic prosocial and antisocial dichotomy, Riva's framework delves into the intricacies of emotion regulation in response to exclusion. Various strategies, including cognitive avoidance, cognitive approach, behavioral avoidance, and behavioral approach, contribute to a more comprehensive understanding of the coping mechanisms adopted by socially excluded individuals. Expanding this exploration into consumption literature, the Temporal Need Threat Model by K.D. Williams (2007a, 2009) serves as a prevailing framework for examining social exclusion. Comprising three stages, this model initiates a reflexive response inducing pain and triggering fundamental psychological needs.

Williams (2007a, 2009) contends that the response to social exclusion depends on the

type of need under threat, with affiliation needs leading to pro-social behavior and power-provocation needs resulting in anti-social behavior. In parallel, both the Social Testing Theory (Gardner et al., 2005) and the psychological needs theory shed light on how social exclusion influences consumer behavior. It is noteworthy to mention that existing literature explores the need for connection, interchangeably referred to as the need for affiliation or belongingness.

In line with the complex response of social exclusion, the Psychological Need Theory underscores the detrimental impact of social exclusion on interpersonal relationships by emphasizing the fundamental need for belongingness and the restoration of social connections (Gardner et al., 2005). Subsequent research, exemplified by Maner et al. (2007) and Mead et al. (2011), suggests that individuals excluded from social circles prioritize establishing new connections (Maner et al. 2007), often expressing a preference for products symbolizing group membership (Mead et al. 2011). This is seen in how they spend money on items that represent group affiliation, align with their social circles, choose items others dislike, and even express a readiness to try illegal drugs (Mead et al., 2011).

While initial research suggested that excluded consumers might align with member groups in their consumption interactions (Mead et al., 2011; Williams et al., 2000 and 2007a), subsequent studies introduce a different viewpoint. This response extends to increased spending on conspicuous consumption (Lee and Shrum, 2012), luxury goods as a means to fulfill consumer identity needs and attract attention (Ma et al., 2014). In addition to forming direct connections with others through certain types of consumptions, socially excluded individuals may forge indirect bonds with products and

brands to compensate for their threatened affiliation (Chen et al., 2017). Expanding on this research, Mourey et al. (2017) demonstrated that engagement with anthropomorphic attributes can mitigate the downstream compensatory consequences of social exclusion. For instance, during the COVID-19 pandemic, companion robots like Vector helped alleviate loneliness by serving as personal assistants, intimate buddies, and relational peers (Odekerken-Schröder et al., 2020).

One form of response to social exclusion involves prosocial behavior, as mentioned earlier. Research suggests that individuals striving for affiliation goals tend to conform to others (Mead et al., 2011; Williams et al., 2000) and engage in prosocial behaviors to regain social acceptance (Lee & Shrum, 2012; Williams, 2007a). For example, socially excluded consumers might participate in charitable giving or other social activism to connect with others and experience a sense of belonging (Lee and Shrum, 2012). On the flip side, studies propose that socially excluded individuals may counter this by seeking individual uniqueness (Wan et al., 2014), materialistic possessions (Mead et al., 2011), and showing decreased interest in helping others (Kim & Han, 2014; Twenge et al., 2001, 2007). Excluded individuals may resist hereditary consumption behaviors and their inclination towards unique consumption depends on variables such as the stability of exclusion reasons or the potential for regaining social acceptance (Wan et al., 2014). This response contradicts the tendencies of conformity or prosociality, as individuals feeling excluded may intensify their focus on acquiring material possessions to compensate for their lack of social inclusion. Examining the influence of social inclusion on financial decision-making, and building on the earlier discussion of materialistic possessions, prior literature reveals that excluded consumers



tend to lean towards riskier yet potentially more lucrative financial opportunities (Duclos et al., 2012). This inclination is driven by an amplified perception of money as a substitute for social security, enhancing its role in securing life benefits. This consumer response, sometimes also termed compensatory consumption behavior, stems from the belief that possessing more money contributes to a heightened sense of control in life, consequently fostering a willingness to engage in riskier yet potentially more lucrative financial decisions (Duclos et al., 2012).

Extending Duclos's (2012) research, this study explores the influence of social exclusion on investment decision-making. Traditionally, investors have primarily focused on financial risks and returns associated with specific portfolios (Galema et al., 2008). However, as societal awareness grows regarding the adoption of sustainable, socially responsible, and ethical practices that consider the impacts on the environment, society, and future generations, there is a notable shift in the investment and financial service industry (Renneboog et al., 2008). Investors are increasingly prioritizing social and environmental factors alongside financial returns (Lydenberg, 2013; Macey, 2022). Essentially, RI aims to strike a balance between financial returns and social and environmental considerations, fostering a more sustainable and responsible approach to investment (Galema et al., 2008). Simultaneously, as the concern for responsible investment grows, there is a parallel shift in consumer behavior towards an increased interest in environmentally friendly products, commonly referred to as green products.

Echoing the rising public interest in green consumption, prior research has explored the impact of social exclusion on consumers' willingness to embrace green consumption (Guo et al., 2020). This research revealed a notably positive impact,

indicating an increased willingness for self-sacrifice to meet consumers' needs for social connections. Therefore, it becomes imperative to redirect our focus from conventional investment attitudes and preferences towards a more detailed examination of responsible investment practices. This shift seamlessly aligns with the growing demand for sustainable and environmentally friendly choices in both investment and consumer contexts.

Now the question may come that whether responsible investment is a better investment strategy getting significant attention around the world. Research indicates that RI funds exhibit lower volatility in fund flows compared to conventional funds (Bollen, 2007; Renneboog et al., 2005). Empirical studies reveal that social and environmental screening within RI strategies reduces the likelihood of incurring high costs during corporate social crises or environmental disasters, which financial markets often undervalue. Portfolios constructed with corporate governance, environmental, and social criteria have shown the potential to outperform benchmarks (Renneboog et al., 2008). While Statman's (2000) examination of 31 RI funds in the US suggests performance similarities with non-RI funds, indicating no significant underperformance, Bauer et al. (2005) document a learning phase for German and US ethical funds. Despite initial underperformance in the early 1990s, these funds demonstrated performance parity with conventional counterparts from 1998 to 2001. Recent reports from RBC Global Asset Management further support the correlation between sustainability practices, high Environmental, Social, and Governance (ESG) ratings, and positive stock market performance. Companies with robust ESG ratings not only experience outperformance but also benefit from lower costs of debt and equity, enhanced operational efficiency, and

superior management of environmental, financial, and reputational risks. Moreover, the inclusion of considerations around corporate social responsibility (CSR) in stock market portfolios is shown not to weaken financial positions but rather contributes to smoother cash flows (RBC Global Asset Management, 2019).

Considering the mixed findings in the literature and the limited research in the context of investment decisions, the current study aims to investigate how social exclusion may have an impact on investment behavior, particularly lead individuals to have more positive reaction to responsible investment over conventional investment. The study draws inspiration from prior research suggesting that socially excluded individuals exhibit a heightened inclination towards green consumption. By exploring how social exclusion may steer individuals towards long-term solutions, such as responsible investment, rather than immediate remedies like green products that address the need threatened by social exclusion, this contributes to a more comprehensive understanding of the intricate dynamics at play between social exclusion, openness for responsible investment, and the broader landscape of consumer and investment behavior. Therefore, the hypothesis is:

**H1:** Individuals who encounter social exclusion will have a more positive reactions towards the responsible investment (RI) than conventional investment, while those who do not experience social exclusion exhibit no difference in their reactions towards RI and conventional investment.

## **2.2 Mediating Role of Desire for Altruism**

Expanding upon Williams' Temporal Need Threat Model (2007), Lee and Shrum's Differential Need Hypothesis (2012) introduces a contextual dimension, which associates pro-social behavior with threats to relational needs and anti-social behavior with threats to efficacy needs. In this nuanced framework, relational needs encompass the fundamental human desires for belongingness and self-esteem, and threats to these needs prompt individuals towards pro-social behaviors. On the other hand, efficacy needs involve the desire for power, control, and meaningful existence, and threats to these needs result in anti-social behaviors.

Furthermore, the Differential Need Hypothesis (Lee and Shrum, 2012), gains additional depth through their introduction of a reflective stage that extends the Temporal Need Threat Model (William, 2007). In this conceptualization, any threat to relational needs propels individuals toward altruistic consumption, where their purchasing or consuming behaviors are intentionally directed at nurturing social connections and reinforcing a sense of belonging. Conversely, threats to efficacy needs drive individuals toward consumption behaviors that are self-centric or strategically crafted to attract attention from others. Despite its theoretical richness and the valuable insights, their work offers multiple layers of meaning in terms of responses to social exclusion such as some consumers' consumption pattern is altruistic whereas others go for self-focused consumption behavior. This observed disparity prompts a call for further investigation to thoroughly grasp the Differential Need Hypothesis model's (2012) potential contributions in understanding the multifaceted effects of social exclusion on consumer behavior across diverse contexts. Therefore, in the present research, the Differential Need Hypothesis

model by Lee and Shrum (2012) is employed. This choice is also supported by previous research affirming the model's relevance, indicating that social exclusion can motivate individuals to engage in prosocial behavior as a means of restoring their sense of affiliation and acceptance (Williams, 2007b; Twenge & Campbell, 2003).

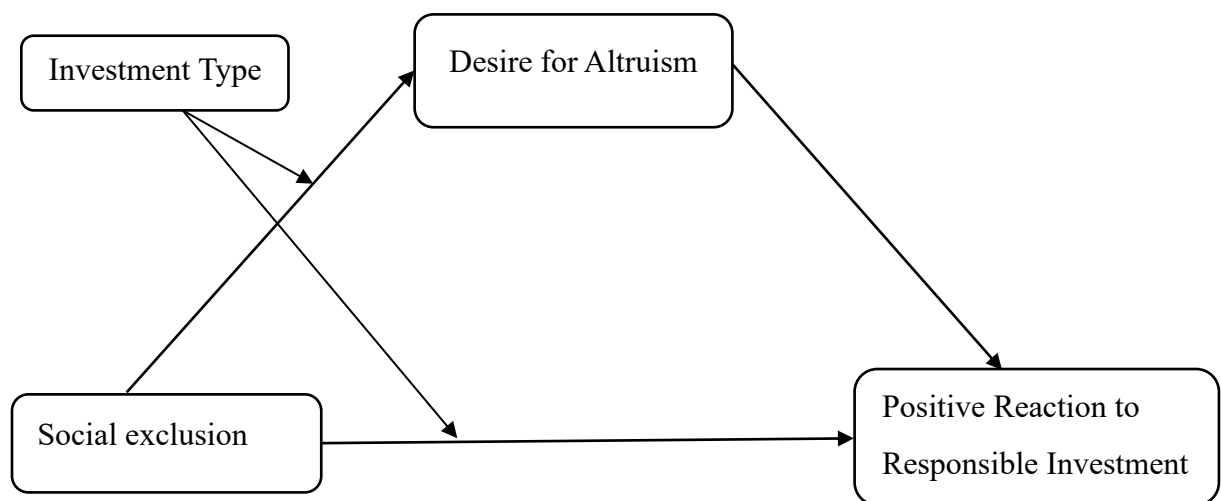
Research indicates that prosocial behavior takes on various expressions, encompassing acts of assistance, active involvement in volunteer work, and contributions to charitable causes (Lee & Shrum, 2012; Wittek & Bekkers, 2015). In a modern understanding of prosocial behavior, the scope extends beyond conventional manifestations, recognizing individuals who demonstrate a commitment to environmental stewardship through the selection of eco-friendly products (Harbo et al., 2017). This conscientious choice is acknowledged as a form of prosocial behavior, driven by the intention to safeguard the environment and foster the well-being of both society and future generations (Gurbuz and Yildiz, 2019; Li et al., 2021). Altruism, another facet of prosocial behavior, is defined as voluntary actions primarily motivated by concern for the needs and welfare of another person (Eisenberg and Fabes, 1995; Wittek & Bekkers, 2015; Pfattheicher et al., 2022). It has long been a subject of interest in both social psychology and consumer behavior. Previous research has defined altruism as an act characterized by genuine consideration for others' interests, and also sometimes devoid of ulterior motives rooted in selfishness (Nagel, 1970). While other motives may coexist, the desire for altruism stands out as one of the prominent drivers that propels individuals toward engaging in prosocial behavior (Pfattheicher et al., 2022; Wittek & Bekkers, 2015; Batson & Powell, 2003).

Studies exploring this desire for altruism have consistently demonstrated its link to various forms of prosocial behavior. For instance, Eisenberg and Miller (1995) distinguish altruism from general prosocial behavior, noting that altruism is motivated by intrinsic factors rather than external rewards or the avoidance of punishment. This perspective separates prosocial behavior—actions benefiting others—from altruism, which encapsulates the underlying motivations behind these actions. Additionally, individuals with a strong inclination for altruism are more likely to actively participate in volunteer work and contribute to charitable causes (Eisenberg & Miller, 1987; Pfattheicher et al., 2022; Wittek & Bekkers, 2015). These behaviors, grounded in the desire to aid others and contribute to societal well-being, emerge as intrinsic expressions of altruism rather than pursuits driven by personal gain or recognition. Confirming these findings, Rawat and colleagues (2022) further categorized prosocial consumption behavior as an indirect affiliative satisfaction, aligning closely with the propositions central to my study.

In the context of investment decisions, financial considerations typically take precedence over social factors, leading investors to hesitate in compromising financial returns to align with their beliefs, especially in the context of conventional investments (Glac, 2009). However, the landscape shifts when it comes to responsible investment, as recent studies indicate a positive correlation between altruistic values and the perceived significance of social responsibility (Yang et al., 2021; Wins and Zwergel, 2016). Hartzmark and Sussman (2019) examined investment decisions across socially responsible portfolios, revealing that investors are willing to forgo some of their potential returns for socially responsible investments (SRIs). Building on this, previous research by

Brodback et al. (2019), which utilized questionnaires to explore investors' personal values, emphasized the substantial impact of altruistic values on the adoption of responsible investment practices. This suggests that individuals with an desire for altruism are more inclined to engage in socially responsible investments, viewing these actions as a means to contribute positively to society. Thus, in the context of this study, it is hypothesized in Figure 1 that individuals who have experienced social exclusion will exhibit more positive reaction to responsible investment over conventional investment, and the rationale behind this prediction lies in the heightened desire for altruism, and responsible investment serves as a tangible manifestation of this altruistic inclination.

**H2a:** Individuals who experience social exclusion will have a higher desire for altruism compared to individuals who do not experience social exclusion. This higher desire for altruism will lead to more positive reaction towards responsible investment than the conventional investment. This effect is not significant for those who do not feel social exclusion.



*Figure 1: Conceptual Model for Hypothesis 2*

Previous research has explored the impact of social exclusion on individuals' needs for belongingness. When social exclusion threatens the need for belongingness, individuals often seek to reconnect socially. They may engage in affiliative spending (Mead et al., 2011) and the purchase of nostalgic products in facilitating a reconnection with the past (Loveland et al., 2010).

The diverse responses to social exclusion are likely due to the specific needs that are threatened, and the methods individuals employ to restore those needs. In a comprehensive review conducted by Williams (2007), it was proposed that when relational needs such as belongingness are most threatened, individuals tend to strengthen these needs by feeling, thinking, and behaving in a prosocial, affiliative manner. This is because prosocial actions enhance interpersonal attractiveness. In line with Williams's (2007) findings, Mead et al. (2011) explored the impact of social exclusion on individuals' needs for belongingness and found that individuals may engage in affiliative spending to socially reconnect with other people. Individuals may often engage in the purchase of nostalgic products in facilitating a reconnection with the past (Loveland et al., 2010). For this reason, as evident from prior literature, this study also assessed participants' need for belongingness to determine whether they play a significant role in the context of the research.

**H2b:** Individuals who experience social exclusion will have heightened need for belongingness compared to individuals who do not experience social exclusion. For socially excluded people, this heightened need for belongingness will lead to more positive reaction towards responsible investment than conventional investment.



### **2.3 The Moderating Role of Self-esteem**

Self-esteem is a judgment of one's own worth and value, based on assessments of different aspects of oneself (Bailey, 2002), and these assessments include one's philosophy of life, character, tangible and intangible work products, inherent qualities and quantities, physical appearance, personality, reputation, and attachments to others or things. Each of these aspects and their subcategories can have positives and negatives related to worth and value (Branden, 1994). If the positives outweigh the negatives, one may develop a level of self-confidence and have a good or high self-esteem. Conversely, if the negatives outweigh the positives, one may develop a low self-esteem (Baumeister et al., 1989). This perception of self may impact consumer behavior, specifically in the way consumers make product choices. For instances, individuals with low self-esteem tend to perceive their environment as hostile and threatening, which leads them to choose products and services that confirm their negative self-views to feel better about themselves (Baumeister 2002; Anthony et al., 2007; McFarlin and Blascovich 1981; Murray et al. 2000). Despite the expected strong desire to improve their self-perception, research suggests that their insecurities and self-doubt may actually make them reluctant to enhance their self-views, especially after experiencing a threat (Dodgson and Wood 1998; Shrauger 1975; Song et al., 2017; Swann et al. 1992). A meta-analysis aligns with the previous research that individuals with low self-esteem are less likely to engage in compensatory behaviors after psychological threats (van Dellen et al. 2011).

Recent studies indicate that consumers often evaluate products through the lens of their self-perceptions. Specifically, individuals with low self-esteem, perceiving themselves as inferior to others, exhibit a preference for products that align with their negative self-views, such as those perceived to be of lower quality or value (Stuppy et al., 2020). The findings of this study suggest that this inclination among individuals with low self-esteem can be interpreted as a form of self-verification, wherein choosing inferior products reinforces their negative self-image. For instance, the results of one experiment illustrate that individuals with low self-esteem exhibited a preference for a non-cool restaurant over a cool one, arguably indicating a tendency to validate their pessimistic self-views. These findings are consistent with classic research, which indicates that consumers with low self-esteem avoid efforts to enhance their self-views, as such attempts may be perceived as setting them up for future failure and rejection (Baumeister et al., 1989).

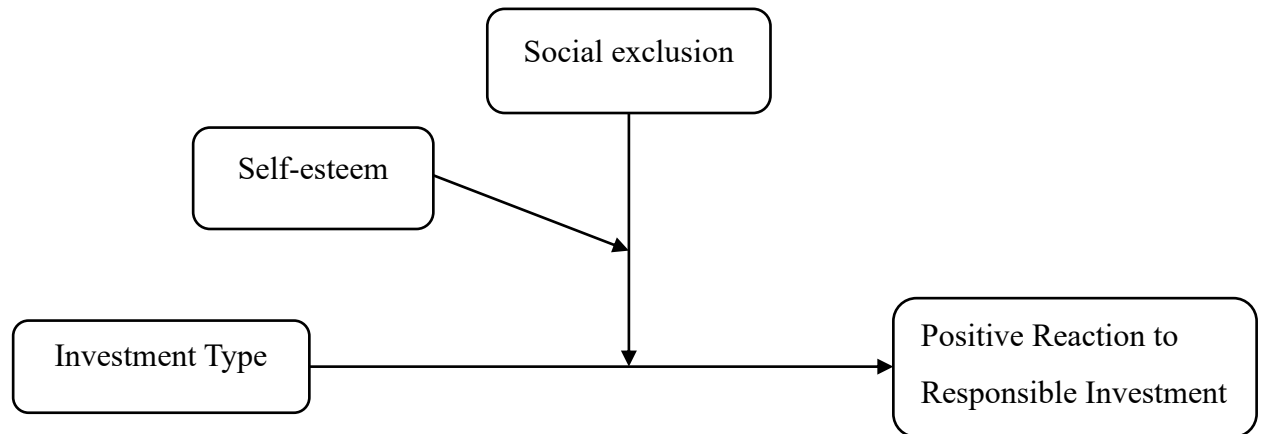
On the flip side, individuals boasting high self-esteem tend to view their environment through an optimistic lens (Blaine and Crocker, 1993), aspiring to attain superiority, success, and social acceptance (McFarlin and Blascovich, 1981; Murray et al., 2000). Empirical research has consistently demonstrated that consumers with elevated self-esteem are inclined to choose products perceived as superior over inferior ones, driven by the pleasurable pursuit of self-enhancement, which involves minimal costs (Robins and Beer, 2001). Furthermore, individuals with high self-esteem harbor confidence in their ability to uphold positive self-views, motivating them to engage in self-enhancement by actively seeking products that reinforce their desired self-image (Taylor and Brown, 1988; Baumeister, 1982; Mandel et al., 2017). For instance, in a

study conducted by Stuppy et al. (2020), participants with high self-esteem displayed a clear preference for the cool restaurant over the non-cool one, presumably because the cool environment provided an avenue for experiencing a positive sense of self-worth.

Drawing from the literature, compelling evidence indicates that self-esteem acts as a moderator in consumption decisions. In the specific realm of responsible investment preferences, it is expected that self-esteem will play a key moderating role in the interplay between social exclusion, altruistic desires, and the inclination toward responsible investment. As discussed earlier, individuals with high self-esteem typically gravitate towards superior products, while those with low self-esteem may opt for products that affirm their negative self-views through self-verification. Building on this understanding, the hypothesis emerges that individuals experiencing social exclusion and possessing high self-esteem are more likely to express a preference for responsible investment compared to their low self-esteem counterparts. This proposition is rooted in the observation that individuals with high self-esteem generally harbor a more positive self-perception and a heightened belief in their ability to positively contribute to the world. Consequently, this positive self-perception acts as a catalyst for a stronger motivation to engage in socially responsible behavior. In contrast it is hypothesized in Figure 2 that individuals with low self-esteem may be more oriented towards preserving their pessimistic self-views to maintain a sense of despair and avoid potential rejections, potentially diminishing their inclination to partake in socially responsible behavior that requires some sort of effort. Thus, the hypothesis as follows:

**H3a:** Self-esteem will moderate the relationship between social exclusion and positive reaction to responsible investment, such that socially excluded

individuals with high self-esteem (in comparison to low self-esteem) will have a more positive reaction towards responsible investment than conventional investment. This effect is not visible for those who do not feel social exclusion.



*Figure 2: Conceptual Model for Hypothesis 3*

In addition to self-esteem, temporal orientations represent another significant psychological characteristic that can influence how individuals respond to social exclusion. Temporal orientations, which encompass biases towards the past, present, or future, have been shown to impact decision-making and behavior (Holman & Silver, 1998). These orientations can vary among individuals, with some showing a greater cognitive involvement in one temporal orientation over another (Holman & Silver, 1998; Shipp et al., 2009; Zimbardo & Boyd, 1999). Generally, individuals with a future-oriented perspective tend to pay more attention to, care about, and assign greater importance to the potential future outcomes of their current actions when making decisions about how to behave (Joireman et al., 2006; Shipp et al., 2009). For example, when deciding whether to exercise or watch television, those with strong future

orientations may focus on the long-term benefits of exercise, such as improved health, and consider how it aligns with their long-term goals, such as weight loss (Ouellette, 2005). In contrast, individuals with less future-oriented perspectives may give less thought to the long-term consequences of exercise and may place less importance on its impact on weight loss.

Recent research has indicated that a future orientation tends to lead to behaviors that contribute to achieving long-term collective benefits (Joireman et al., 2006). Specifically, individuals who prioritize future consequences in their decision-making are more likely to engage in prosocial behavior compared to those who are less future-oriented (Insko et al., 1998; Joireman et al., 2004; Joireman et al., 2006; Strathman, Gleicher, Boninger, & Edwards, 1994). This introduces the possibility that individuals with distinct temporal orientations may react differently to social exclusion and subsequently display varying preferences for responsible investment and levels of desire for altruism.

**H3b:** Temporal orientation will moderate the relationship between social exclusion and positive reaction to responsible investment, such that socially excluded individuals with high temporal orientation (than low temporal orientation) will have a more positive reaction towards responsible investment and this effect is not significant for those who do not feel social exclusion.

By investigating the moderating role of temporal orientations besides self-esteem in the context of social exclusion, this study aims to provide a comprehensive understanding of the intricate factors that may shape individuals' responses to exclusion and, by extension, their investment preferences.

## CHAPTER 3 TEST OF HYPOTHESIS

In this section, an experiment is presented with the goal of testing if socially excluded consumers have a higher preference towards responsible investment (H1) and whether this relationship is mediated by desire for altruism and need for belonging (H2). Further, this experiment investigates if variables such as trait self-esteem or temporal orientation moderate the obtained results (H3). In the first section, the method is presented, followed by the procedure of the experiment. Finally, the results and discussion of this study are presented. All statistical analyses in this research were conducted with 95 percent confidence interval and p-value less than .05.

### 3.1 Method

This study aims to investigate the impact of social exclusion on preference towards responsible investment. Specifically, the study employed an experiment with a 2 (social exclusion vs. control)  $\times$  2 (investment type: conventional investment vs. responsible investment) between-participants design. Initially, participants' trait self-esteem levels were measured. Subsequently, participants were randomly assigned to either the social exclusion or control condition by asking them to play Cyberball, an online ball-tossing game widely utilized in social psychology research (Williams, Cheung, and Choi, 2000; Williams and Jarvis, 2006). Participants were also randomly assigned to either conventional investment or responsible investment that were presented as advertisements. Following the exclusion and investment type manipulation, participants were asked to rate their attitudes toward the advertisement, attitude towards investment portfolio, indicate their preferences for the investment portfolio, and their willingness to invest in it, and asked to rate some other questions to measure their desire

for altruism, need for belongings, temporal orientation followed by manipulation check questions and demographic questions.

As theorized earlier, it is predicted that socially excluded consumers would have a positive preference towards the responsible investment through the mediating role of desire for altruism. And the effect will be moderated by self-esteem, that is, socially excluded individuals with high self-esteem will prefer responsible investment more compared to those excluded people with low self-esteem. Also need for belongingness is measured as an additional mediator in this experiment. It was predicted that socially excluded individuals with higher need for belongingness will have greater preference for responsible involvement over conventional investment. Finally, temporal orientation tested as a moderating variable, serving as a potential boundary condition alongside self-esteem. The proposition was that socially excluded individuals with high temporal orientation would demonstrate a greater preference for responsible investment compared to those with low temporal orientation. This multi-faceted approach aims to offer a comprehensive understanding of the intricate dynamics surrounding social exclusion and its effects on responsible investment preference.

### **3.2 Procedure**

Participants who expressed interest in participating in an online research study and subsequently accessed the research session through the Prolific platform were provided with a brief overview upon clicking the study title. This included a brief description of the study, the tasks participants were asked to undertake, the average time needed to complete this study, and details regarding compensation which was set at USD

\$3. Upon starting the experiment, all participants had to read the consent form as part of the ethics application that was approved by Dalhousie Research Ethics Board (see Appendix A). Those who provided consent were directed to the main part of this experiment. The questionnaire (available in Appendix B) for the experiment was designed using Qualtrics, and the link to the questionnaire was provided on the Prolific platform.

First of all, Participants were asked to answer ten questions relevant to how they feel in general (as a measure of trait self-esteem). Following this task, they were told that they will be asked to evaluate an ad, however, to calibrate the ad for their computer screen, they need to play a short game which will give us information on their screen size and therefore the researcher can show them the right size ad compatible to their computer screen. They were randomly assigned to one of two conditions of the social exclusion (exclusion vs. Control), using Cyberball game. In the Cyberball, participants were instructed to use arrows on a computer screen to catch and toss back a ball. They were informed that task performance will not be negatively impacted by how many balls tosses they get and that the game is a mental visualization exercise while also helping us to calibrate the screen size. When playing this game, participants in the control condition received around 80% of ball tosses, while participants in the exclusion condition will receive around 20% of ball tosses before being eliminated and never receiving it again. The game took around 5 minutes to finish.

Following this section, they were told that their screen is calibrated and ready for the researcher to show them the ad. Following this message participants were randomly assigned to either conventional or responsible investment ad. Both ads were similar in



content with a few changes that we introduced a few words about responsible investment in the opening sentence: “Responsible investment serves as a driver for positive transformation, providing the opportunity for returns that match those of traditional investments.”, and added a concluding statement like this, “while simultaneously making a meaningful difference in communities and environment”. In conventional investment, the text was, “The key is on you to grow your wealth and secure your financial future. Sunflower Investment empowers you to pursue your financial aspiration” (See Appendix B).

Following this step, participants were asked to report their attitude towards the ad, attitude towards the investment portfolio, indicate their openness to the investment, and their willingness to invest money in the portfolio they had seen in the ad. To explore potential underlying mechanisms, participants were also inquired about their need for belongingness and desire for altruism. Additionally, participants completed a series of questions related to temporal orientation, which was examined as potential moderator and was measured by their consideration of future consequences. After this task, they were also asked to evaluate the ad based on ESG factors (environment, social, governance criteria) to check if the investment manipulation were effective. To verify the success of the social exclusion, participants were also asked to evaluate their experience while playing the Cyberball game. The study was concluded with some demographic questions, whether they had played Cyberball in the past, and a few questions regarding participants' investment knowledge and actual investment experience. Finally, participants were thoroughly debriefed on the research's purpose, thanked, and offered compensation for their valuable time and efforts.

### 3.3 Participants

Three hundred seventy-five participants residing in the United States were recruited on Prolific in exchange for USD \$3 (45% Female;  $M_{\text{age}} = 35.75$  years). Towards the end of the experiment, participants were asked if they had ever played Cyberball before. Those who had previously played Cyberball in the past were excluded from further analysis. This was because they might have been aware of the goal of this research goals in advance, and their prior experience may also impact their responses to the questions in the current research ( $n= 91$ ). The removal of these ninety-one participants resulted in a remaining sample of two hundred eighty-four participants. The experiment was conducted through the Prolific platform, and participants were informed that they would be evaluating financial services advertisements.

### 3.4 Measures

*Self-esteem:* Participants were first completed the self-esteem ten-items scale adapted from previous research (Morris, 1965) that assessed their general feelings and thoughts to evaluate the overall trait self-esteem. The original scale was 4-point Likert scale with no neutral points, and it was anchored from positive to negative. We modified the scale point to 5-point scale as previous research adopted 5-point Likert scale and had good internal consistency (Kim et al., 2022). We reverse-coded those items with opposite direction, where higher scores correspond to higher levels of self-esteem and lower score indicates lower level of self-esteem ( $\alpha=0.84$ ). Items were: “On the whole, I am satisfied with myself”, “At times I think I am no good at all” (R), “I feel that I have a number of good qualities”, “I am able to do things as well as most other people”, “I feel I do not

have much to be proud of” (R), “I certainly feel useless at times” (R), “I feel that I’m a person of worth, at least on an equal plane with others”, “I wish I could have more respect for myself” (R), “All in all, I am inclined to feel that I am a failure” (R), “I take a positive attitude toward myself”. (Anchored: 1 = strongly disagree, 5 = strongly agree).

*Openness to investment portfolio:* Participants openness to invest for the portfolio was measured with a single item by asking, “Indicate your investment preference for this portfolio.” (Anchored: 1 = I am strongly against investing my money in this portfolio, 7 = I will strongly consider investing my money in this portfolio).

*Attitude towards the Ad:* Attitude towards ad were measured using four 7-point semantic differential items adapted from Pollay & Mittal (1993). We calculated a mean score where higher scores indicate higher attitude towards the ad ( $\alpha=0.96$ ). Items were, “How do you feel about the overall advertisement you just saw?” (Anchored: 1 = bad, 7 = good; 1 = unfavorable, 7 = favorable; 1 = dislikable, 7 = likable; 1 = negative, 7 = positive).

*Attitude towards the Investment Portfolio:* Attitude towards investment portfolio were measured using four 7-point semantic differential items adapted from Pollay & Mittal (1993). We calculated a mean score where higher scores indicate higher attitude towards the ad ( $\alpha=0.97$ ). Items were, “How do you feel about the investment portfolio advertised in the ad?” (Anchored: 1 = bad, 7 = good; 1 = unfavorable, 7 = favorable; 1 = dislikable, 7 = likable; 1 = negative, 7 = positive).

*Willingness to Invest in the Portfolio:* Willingness for the investment portfolio was measured by asking, “If you have extra money and are looking for financial investments,

would you be willing to invest in the portfolio advertised above?” and “Indicate how interested are you in learning more about this investment portfolio.” Participants responded on a 7-point scale ranged from not interesting at all (1) to extremely interesting (7). We calculated a mean score where higher scores suggest greater willingness to invest ( $r=0.90$ ,  $p < .001$ ).

*Desire for Altruism:* A 7-points likert scale with nine questions was used to measure participants’ desire for altruism. The scale was adapted from Morselli and Passin (2015) and Kim (2009). The items are modified a little bit to fit into our study. We calculated the average of all items, with higher scores indicating higher desire for altruism ( $\alpha=0.67$ ). Sample item was: “Right now, it is important for me to take actions that contribute to a better world.” (Anchored: 1 = strongly disagree, 7 = strongly agree).

*Need for belongingness:* To measure the need for belongingness, participants completed a three-items 7-points scale adapted from Mende et al. (2019). I had to drop one item in our analysis due to the low inter-item correlation. Therefore, we only considered two items to measure participants need for belongingness. I calculated the mean score from these two items, with a higher score suggesting a greater need for belongingness ( $r =0.95$ ,  $p = .01$ ). Items were: “I had a sense of belonging on my mind.”, and “I had a sense of connectedness to other people.” (Anchored: 1 = strongly disagree, 7 = strongly agree).

*Temporal Orientation:* To measure the extent to which participants’ behaviours and motivations are influenced by consideration of potential future outcomes, a 7-points five items likert scale was used and the items are adapted from Strathman et al.’s (1994).

We calculated the average of all items, with higher scores indicating higher temporal orientation ( $\alpha=0.80$ ). Sample item was: “I consider how things might be in the future and try to influence those things with my day-to-day behaviour.” (Anchored: 1 = strongly disagree, 7 = strongly agree).

*Manipulation checks for social exclusion:* participants were asked to respond to five questions adopted from Aghakhani and Main (2018) that evaluated participants’ momentary feeling of exclusion on a Likert scale of 1 (strongly disagree) to 7 (strongly agree), where a higher number reflects more feeling of exclusion. This helped us to confirm the effectiveness of the social exclusion manipulation. We reverse-coded those items that were in the opposite direction and calculated the average score for all items ( $\alpha=0.92$ ). Items were: “I felt disconnected”, “I felt rejected”, “I felt like an outsider”, “I felt I belonged to the group” (R), “I felt the other players interacted with me a lot” (R).

*Manipulation checks for the type of investments:* To assess the success of the investment type manipulation, participants responded to four questions on a 7-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). Participants were asked to what extent they find the investment portfolio responsible. Items were: “I find this investment portfolio considers environmental factors for a better future”, “I find this investment portfolio considers social factors for a better future”, “I find this investment portfolio considers governance factors for a better future”. We computed the mean score for all items ( $\alpha=0.89$ ).

*Other measured items:* Participants also responded to some other questions, including their need for power when they played the Cyberball game, whether they

played game before, if they have active investment account, and their level of investment experience. Furthermore, participants answered a set of demographic questions such as age and income.

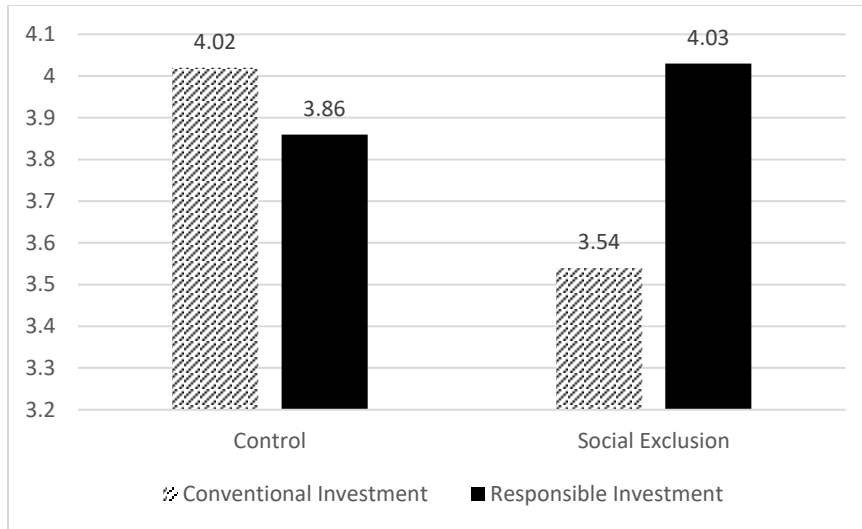
### 3.5 Results

*3.5.1 Exclusion Manipulation Check:* Results of the ANOVA with social exclusion and investment type as independent variables and the social exclusion manipulation check as dependent variable showed a significant effect of social exclusion where people in the socially excluded condition reported higher level of feeling of rejection and exclusion ( $M_{\text{social exclusion}} = 5.57, SD = .11, M_{\text{control}} = 3.12, SD = .11, F(1, 279) = 241.707, p < .001$ ). This confirms the success of the social exclusion manipulation. There was neither any main effect of investment type, nor any interaction effect of social exclusion and investment type on the manipulation check index ( $p$ 's  $> .8$ ).

*3.5.2 Investment Type Manipulation Check:* Results of the ANOVA with social exclusion and investment type as independent variables and the investment type manipulation check as dependent variable revealed a significant effect on investment type ( $M_{\text{responsible investment}} = 4.71, SD = .10, M_{\text{conventional investment}} = 4.19, SD = .11, F(1, 279) = 12.283, p < .001$ ). This result indicates that the investment type manipulations were successful. There was neither any main effect of social exclusion, nor any interaction effect of investment type and social exclusion on the manipulation check index ( $p$ 's  $> .3$ ).

*3.5.3 Test of Hypothesis 1:* Results of the univariate ANOVA with social exclusion and investment type as independent variables and openness to invest as the dependent variable showed neither main effect of social exclusion ( $p > 0.3$ ), nor any main effect of

investment types ( $p > .3$ ). However, there was a marginal interaction effect between social exclusion and investment type ( $F(1, 279) = 3.28, p = .069$ ). Further analysis of the marginally significant two-way interaction revealed that for the control group, there was no difference on openness to invest between the conventional and responsible investment ( $M_{\text{conventional}} = 4.02$  vs  $M_{\text{responsible investment}} = 3.86, p > .5$ ). However, in social exclusion condition, respondents were more open to responsible investment than the conventional investment ( $M_{\text{conventional}} = 3.54, SD = .17, M_{\text{responsible investment}} = 4.03, SD = .18, F(1, 279) = 3.87, p = .05$ ) which is in line with H1. To further explore this difference, analysis shows that people who are socially excluded are less open to conventional investment than those who were in control condition and viewing the conventional investment ( $M_{\text{social exclusion, conventional}} = 3.54, SD = .17, M_{\text{control, conventional}} = 4.02, SD = .17, F(1, 279) = 3.429, p = .065$ ). For the responsible investment, although the direction of results were in support of H1, however there was no significant difference between social exclusion and control condition ( $M_{\text{social exclusion, RI}} = 4.03, SD = .17, M_{\text{control, RI}} = 3.86, SD = .17, F(1, 279) = .47, p > .4$ ). In summary, the significant interaction effects observed in H1 are due to the impact of social exclusion on conventional investment, where social exclusion reduced participants' openness towards the conventional ad.



*Figure 3: Interaction effects of social exclusion and advertisement types on investment preferences*

Results of the univariate ANOVA with social exclusion and investment type as independent variables and attitudes towards the advertisement as the dependent variable showed that there was no main effect of social exclusion, no main effect of investment type, and no interaction effect of investment type and social exclusion on attitude towards advertisement ( $p$ 's > .5). This is somehow not a surprising result as it is not expected if exclusion impacts the way people evaluate an ad from a visual perspective.

Results of the univariate ANOVA with social exclusion and investment type as independent variables and attitudes towards investment portfolio as the dependent variable revealed a significant effect of social exclusion ( $M_{\text{social exclusion}} = 4.17$ ,  $SD = .17$ ,  $M_{\text{control}} = 4.47$ ,  $SD = .18$ ,  $F(1, 279) = 4.267$ ,  $p < .04$ ), however, there was neither any main effect of investment type, nor any interaction effect of social exclusion and investment type on attitude towards investment portfolio ( $p$ 's > .5). The main effect of



exclusion means that in general, people in control condition liked the investment portfolio advertised more than the excluded people. This finding confirms existing literature, providing evidence that individuals who have experienced social exclusion may be more skeptical towards advertisements due to their distressing experiences (Pfundmair et al., 2017). This skepticism comes from a range of cognitive deficits, leading to demotivation in processing relevant information (Pfundmair et al., 2017).

Results of the univariate ANOVA with social exclusion and investment type as independent variables and willingness to invest as the dependent variable showed that there was no main effect of social exclusion, no main effect of investment type, and no interaction effect of investment type and social exclusion on willingness to invest ( $p$ 's > .3). One reason behind these non-significant results is the composition of our recruitment process. We may find that typically people who join these crowdsourcing platforms such as prolific, Clyde Research, Amazon mTurk may have lower disposable income which hinders their investment activity, and this may cause this non-significant result here.

*3.5.4 Test of Hypothesis 2: Mediating Effect.* The study also examined the mediating role of need for belongingness and desire for altruism in the relationship between social exclusion and preference for investment portfolio. The analysis included a moderated mediation model with social exclusion as the independent variable, openness to invest for the portfolio as the dependent variable, investment type as moderating variable, and the mediating variables as follow: need for belongingness, and desire for altruism as potential mediators. To test the significance of these mediating pathway, procedure proposed by Zhao et al. (2010) and the model by Hayes (2017) is employed to conduct the mediating analysis by bootstrapping using 10,000 samples (PROCESS model

8; Hayes, 2017). Two separate moderated mediation analyses were conducted, each involving a single mediator.

*Desire for Altruism.* The findings of this test did not show any significant interaction of investment type and social exclusion on desire for altruism ( $\beta = 0.0181$ ,  $t = 0.0578$ ,  $p = 0.9539$ ). The results supported the interaction between social exclusion and types of investment ( $\beta = 0.637$ ,  $t = 1.91$ ,  $p = 0.056$ ) which was already discussed in H1. However, the result of index of moderated mediation includes zero which rejects H2a, in other words, desire for altruism is not mediating the relationship [95% CI(-.205, .2748)].

*Need for belongingness.* The result did not exhibit any significant interaction of investment type and social exclusion on need for belongingness ( $\beta = -0.6369$ ,  $t = -1.0252$ ,  $p = 0.3061$ ). The results supported the interaction between social exclusion and types of investment ( $\beta = 0.69$ ,  $t = 1.96$ ,  $p = 0.051$ ) which was already discussed in H1. However, the result of index of moderated mediation includes zero which rejects H2b, in other words, need for belongingness is not mediating the relationship [95% CI(-.1689, .0769)].

In summary, the confidence intervals for the indirect effects included zero for all the mediating variables, indicating that these mediating pathways did not reach statistical significance. Therefore, the results suggest that these mediating variables do not significantly explain the relationship between social exclusion and preference for responsible investment portfolio.

*3.5.5 Test of Hypothesis 3: Boundary conditions.* To test the third hypothesis, moderation analysis (Hayes, 2017; PROCESS model 3, bootstrapped with 10,000 samples) was conducted using investment type as independent variable, social exclusion

and self-esteem as moderators, and openness to invest for the portfolio as dependent variable. The analysis did not show any two-way interactions on openness to invest ( $p's > .5$ ). Furthermore, the three way interaction between investment type, social exclusion and self-esteem did not yield significant results ( $\beta = 0.0030$ ;  $t = 0.0058$ ;  $p = 0.9954$ ). In other words, self esteem is not moderating the effect found in H1 which means that H3a is rejected.

Further moderation analysis (Hayes, 2017; PROCESS model 3, bootstrapped with 10,000 samples) using investment type as independent variable, social exclusion and temporal orientation as moderators, and openness to invest for the portfolio as dependent variable. The analysis did not show any two-way interactions on openness to invest ( $p's > .2$ ). Furthermore, the three-way interaction between investment type, social exclusion and temporal orientation did not yield significant results ( $\beta = -0.1320$ ;  $t = -0.3649$ ;  $p = 0.7154$ ). In other words, temporal orientation is not moderating the effect found in H1 which means that H3b is rejected.

### **3.6 Discussion**

The pursuit of social connection and the maintenance of close relationships are among the most fundamental needs of human beings (Baumeister and Leary, 1995). To meet these needs, individuals frequently find themselves ready to invest or sacrifice valuable resources, including time and money, to maintain a state of well-being (Mead et al., 2010; Duclos et al., 2012). Yet, what unfolds when these endeavors fall short? The experience of social exclusion has become a ubiquitous experience in everyday life. Therefore, the purpose of this research is to explore the influence of social exclusion on a

crucial aspect of consumer behavior- specifically, financial decision-making, with a particular focus on investment attitudes and preferences. The reason, we argued that in absence of social connection, when it comes to investment decisions, excluded consumers may look for options that can restore the exclusion status, and responsible investment is proposed as a viable choice in this context.

As in consumption literature, prior studies have established that individuals, when confronted with social exclusion, tend to favor green products (Gurbuz and Yildiz 2019; Guo et al., 2020; Li et al. 2021). This preference is attributed to the perceived social value linked with choosing environmentally friendly options. Moreover, these investigations have illuminated a compensatory consumption dynamic. In opting for green products, individuals experience a sense of fulfillment, viewing their choices as meaningful contributions to society and efforts toward environmental preservation for future generations.

Despite previous research on the impact of social exclusion on financial decision-making, which revealed that excluded consumers want considerably more money to restore their status within the social system (Duclos et al., 2012), our understanding has evolved. In their experiments, they offered both riskier and regular financial opportunities, triggering a sense of power and control among participants that led them to choose the lucrative but riskier option. Building on this prior work, we hypothesized that experiencing social exclusion would increase the likelihood of preferring responsible investment compared to conventional investment. Our rationale behind this proposition is rooted in the idea that, when presented with healthy option vs regular option, they might prefer healthier options more over regular option regardless the tangible financial factors.

To align with this hypothesis, we presented participants with either responsible or conventional investment options based on which condition they were randomly assigned in.

The results of this experiment partially supported H1, where individual who felt socially excluded were more open to responsible investment compared to those who felt socially excluded but evaluated conventional investment. This experiment further revealed a noteworthy insight, that is the openness to invest for the conventional investment portfolio decreased among those who had experienced social exclusion compared to individuals in the control condition. In other words, while there is a difference between openness towards conventional and responsible investment among those who experience social exclusion, this difference is primarily due to the diminishing effect of social exclusion on conventional investment. Further analysis did not support H2 and H3. In other words, neither desire for altruism nor need for belongingness mediated the effect of social exclusion, and neither temporal orientation nor self-esteem moderated the obtained results in H1.

Prior research has consistently emphasized the diverse consequences stemming from social exclusion, using numerous methodologies that have been employed in previous studies to induce feelings of social exclusion (Blackhart et al., 2009), which ultimately led to distinct behavioral outcomes. The absence of a direct impact of social exclusion on responsible investment preferences in our study could be attributed to several plausible factors. One significant factor may be rooted in the methodology employed, where participants were exposed to investment advertisements rather than actual investment options. This methodological approach may have failed to establish a

clear connection between participants' reactions to advertising stimuli and their subsequent real-world investment decisions. The discrepancy between the simulated investment advertisements and the tangible act of making investment choices could have caused participants to perceive a disconnect, thereby diminishing the direct impact of social exclusion on responsible investment preferences.

As we also measured attitude towards the ad, and it didn't yield any significant result. This non-significant result serves as compelling evidence, indicating that the effects observed in Hypothesis 1 are not solely a consequence of participants perceiving the ads as aesthetically different. Instead, it suggests that the driving force behind the observed change in openness to invest lies in the substantive content of the ad- specifically, the difference between responsible and conventional approaches- rather than the perceived visual appeal.

We also hypothesized that individuals who experience exclusion will have higher desire for altruism and higher need for belongingness, which will lead to more positive reaction to responsible investment. The result did not support any of the mediating effects explained in H2, that is, the mediating path did not work in this study. This outcome may be explained by the method it had been presented to the participants. When it comes to investment decisions, advertisement might not play an important role to capture the mediating effect. It could be that individuals do not look at advertisement rather they actively seek for attributes to certain investment portfolios. Therefore, presenting investment ad might not serve the purpose of making actual investment decisions.

In terms of the moderating effect of self-esteem and temporal orientation, the findings did not exhibit any significant interaction effects either. It could be due to how participants reported their levels of self-esteem and temporal orientation. A closer examination of the moderation analysis and the frequency table revealed that the distribution curve was not normally distributed. Specifically, most participants for both trait self-esteem and temporal orientation were reported towards the right side of the distribution curve, indicating higher levels of these traits. For example, 80% participants for trait self-esteem and 74% for temporal orientation were skewed towards the right side of the distribution curve.

The overall result suggests the need for more comprehensive understanding of the social exclusion phenomenon. As current research partially found impact of social exclusion on openness to investment but was not able to fully support all the hypotheses including no mediating and moderating effect which prompt a closer examination of the intricate dynamics underlying this relationship. It is likely that the multifaceted nature of the effects associated with social exclusion caused the complex outcomes which is also observed in prior literature. The lower preference towards conventional investment that current research found appears to be contingent not only on the nature of the exclusion but also on the coping strategies individuals adopt in response. Future research may benefit from further exploration of the specific needs threatened by different forms of social exclusion and the mechanisms individuals employ to mitigate these threats, shedding further light on the intricate interplay between social exclusion and responsible investment choices.

## **CHAPTER 4      CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH**

After conducting an experimental study to test the impact of social exclusion on peoples' attitude towards different types of investment, this research showed that people who has experienced social exclusion are more open to responsible investment than the conventional investment. Our research also found that there is no such a difference for people who did not feel social exclusion. Further analysis confirmed that, for those who felt social exclusion, the difference between responsible investment and conventional investment is due to diminishing openness towards conventional investment. This partially confirms H1 of this research. The results did not support the hypotheses that were related to the underlying mechanism (H2) and boundary conditions (H3).

One reason why some of the hypotheses in this research were not significant could be due to the manipulation of investment. Although the manipulation check revealed a significant difference between conventional investment and responsible investment, both means were higher than the midpoint. This indicates that, in general, participants evaluated both responsible investment and conventional investment as responsible. Further study may require testing these hypotheses in difference context, using varied manipulations.

Another potential reason on why the overall result did not work as expected could be the observed gap between participants' self-reported investment knowledge and experience and their practical investment experience. Specifically, as already mentioned earlier, individuals recruited through Prolific platform who may claim to possess higher



levels of investment knowledge but may not have translated this awareness into concrete actions by investing their money in practice, possibly due to their limited disposable income. This incongruity highlights a potential limitation in the alignment between perceived financial acumen and actual investment behaviors, which could have influenced the overall relationship between social exclusion and positive reaction to responsible investment.

Another reason contributing to the overall result that did not work as expected might be linked to how the investment information was presented to the participants. In the context of investment decisions, the role of advertising may be less significant. It could be that individuals do not look at advertisement rather they actively seek for attributes and offerings to certain investment portfolios. Therefore, the presentation of investment information through advertising may not effectively serve the purpose of making actual investment decisions.

#### **4.1 Theoretical Contributions**

The existing literature on social exclusion shows that how various forms of exclusion influence consumer choices. They've identified strategies such as opting for unique products (Wan et al., 2013), embracing nostalgic products (Loveland et al., 2010), or selecting symbolic products to strengthen group membership (Lee & Shrum, 2012; Mead et al., 2011). These studies often focus on immediate coping mechanisms to mitigate the threats and negative emotions resulting from the experience of exclusion.

To expand on the understanding of previous research, we aim to investigate the impact of social exclusion in a different context, specifically within the realm of

investments rather than direct consumption environments. The current research makes a number of contributions. Firstly, despite the experiment not substantiating what we expected, this research enriches the literature by suggesting that individuals under conditions of social exclusion may not rely on advertisements to inform their investment decisions. Rather, they may seek institutions with attributes aligning with specific types of investments. Thus, presenting with actual investment scenarios may find the direct effects of social exclusion on positive reaction to responsible investment. In line with this conclusion, it extends the existing literature on social exclusion and financial decisions. While prior studies indicate that social exclusion prompts individuals to pursue riskier financial opportunities to enhance their social standing and financial gain (Duclos et al., 2012), our directional findings support that exclusion experiences may lead consumers to opt for financially healthier choice through preferring responsible investment to restore their social status, regardless of immediate tangible outcomes. This new insight bridges the gap between consumption and financial decision-making literature, deepening our understanding of how consumers value long-term outcomes even when they may not witness the results in the near future. While our findings may not align directly with prior research on green consumptions (Gurbuz and Yildiz 2019; Guo et al., 2020; Li et al., 2021), it offers a valuable starting point for contemplating responsible investment when people go through exclusion experiences. The results indicate that consideration of responsible investment might be a compelling avenue, acting as a motivating factor for individuals to allocate their funds into responsible investment portfolios. Notably, the evidence supports the notion that socially excluded individuals display less openness to

conventional investments compared to the control group. In other words, socially excluded individuals were negative towards conventional investment.

Secondly, unlike previous research, which predominantly focused on immediate coping strategies, this study explores the context where individuals have to navigate through an extended time frame because in investment scenario outcomes take time to materialize. The finding of the present research contributes to the literature by showing that excluded individuals appear to endure the negative feelings associated with exclusion because unlike previous research the instant gratification through strategic consumption (Mead et al., 2011) or distinctive consumption (Wan et al., 2014) are absent in this context. The current research shows that even when people feel socially excluded, they are willing to withstand the negative emotions even without immediate rewards. This resilience may be because they see certain value in the coping mechanism offered by responsible investment, making the effort worthwhile.

#### **4.2 Managerial Contributions**

The study's finding, indicating that social exclusion positively influences a preference for responsible investment, unveils a potential opportunity for financial product managers. For example, financial product managers could target natural exclusion situations arising from life transitions such as when partners separate or divorce also when people immigrate to a new country. These instances are not deliberate exclusions by organizations but inherent life changes. Rather, this provides an opportunity to cater to specific demographics, such as the elderly, divorcees, or widows,

and support individuals experiencing exclusion through responsible investment, with the goal of mitigating their negative feelings.

Given the consequences of social exclusion and the varied ways people respond to it, marketing managers often face criticism for exploiting these situations. However, the current research provides an opportunity for marketing managers to improve their reputation. For instance, those in the financial service industry can promote responsible investment, especially on platforms like dating apps or within law firms where individuals commonly experience exclusion. Drawing on insights from this research, marketing managers can refine communication strategies on these platforms to effectively highlight the benefits of responsible investments. This approach has the potential to assist individuals in making informed investment decisions during periods of exclusion. Moreover, the ethical promotion of responsible investment not only aligns with societal expectations but also contributes to building trust and credibility for financial service organizations. By addressing the unique challenges associated with exclusion experiences, marketing managers can position their products as solutions that not only offer financial benefits but also serve as a means of support during challenging times.

#### **4.3 Limitations and Directions for Future Research**

This research aligns with the established understanding of social exclusion that is being alone, isolated, or ostracized, often involving explicit or implicit declarations of dislike (Baumeister et al., 2005; Williams, 2007). However, the focus of current research did not extend to exploring potential distinctions between exclusion and loneliness which

is captured in previous research (Lee and Shrum, 2012). Future research could delve deeper into understanding the potential differences between social exclusion and loneliness in their impacts on financial risk-taking.

This study employed a simulated investment scenario, namely, investment advertisement. However, it is crucial to acknowledge that the findings may or may not produce the same result in the real-world investment decisions. The inability to assess the impact of social exclusion on actual investments leaves room for uncertainty, suggesting that the observed influence may vary when applied to real financial situations. To gain a more comprehensive understanding, there is a pressing need to integrate actual investment contexts into research methodologies. By incorporating real-world scenarios, future research can uncover the nuanced ways in which social exclusion truly shapes individuals' financial choices. This recommended change in study design will contribute to a more robust and applicable knowledge base, bridging the gap between simulated scenarios and the complexities of actual investment environments.

As previously mentioned, social exclusion produces varied effects, sometimes leading to antisocial and aggressive behaviors, and other times prompting prosocial responses. While this research could not fully reconcile these contradictions, it proposes a potential explanation: the various manipulations might have threatened distinct needs, despite their apparent similarities. Since we utilized the Cyberball exclusion manipulation in an entirely online study, with limited control over participants' game interactions, future research could explore alternative manipulation techniques to observe potential variations in outcomes.

In this study, we investigated trait self-esteem as a potential moderator and measured it in the beginning of the study with no moderating effect. Future research could consider reassessing by measuring state self-esteem once again at the end of the study. This shift in operationalization might provide fresh insights beyond our current findings. Moreover, the literature on the impact of social exclusion on self-esteem is mixed, with some studies suggesting a reduction while others, including a meta-analysis by Blackhart et al. (2009), indicate no significant impact compared to neutral conditions. Therefore, future research could also explore self-esteem as a potential mediator to evaluate whether this alters the results compared to our current study.

One challenge inherent in this research arises from the use of preference framing in our dependent variables', where participants were presented with a single option—either solely responsible or conventional investment. This approach, limited in its scope, may not fully capture the complexity of reactions to the investment portfolio. Previous literature on consumption often treats preferences as binary choices between multiple options or at least two alternatives (Derek & Richard, 2004; Godey et al., 2016). Therefore, for a more traditional understanding in terms of consumers preference, future research could consider employing preference scenarios with a broader range of options or reframing variables by introducing new items to gain fresh insights. Additionally, addressing another concern for future investigations involves the use of different sample recruitment. This research recruited participants through Prolific, and the findings suggest that platforms like these have inherent limitations, as discussed in an earlier section.

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## APPENDIX A. REB APPROVAL

**Social Sciences & Humanities Research Ethics Board  
Letter of Approval**

September 12, 2023

Rubina Parvin  
Management\General (Management)

Dear Rubina,

**REB #:** 2023-6794  
**Project Title:** Excluded but Empowered, We Invest in Altruism: How Social Exclusion Drives Responsible Investment Preference

**Effective Date:** September 12, 2023  
**Expiry Date:** September 12, 2024

The Social Sciences & Humanities Research Ethics Board has reviewed your application for research involving humans and found the proposed research to be in accordance with the Tri-Council Policy Statement on *Ethical Conduct for Research Involving Humans*. This approval will be in effect for 12 months as indicated above. This approval is subject to the conditions listed below which constitute your on-going responsibilities with respect to the ethical conduct of this research.

Sincerely,

## APPENDIX B. RESEARCH INSTRUMENTS

This paragraph was posted on Prolific. Prolific accepts a very short brief description of the study. When participants click on the study, they directed to the consent form with more information.

### *(Prolific Recruitment Information): Study Announcement*

We are inviting you to participate in an online advertising research study that explores financial services advertisements. The study is being conducted by Rubina Parvin, MSc student at Dalhousie University, and Dr. Hamed Aghakhani, Associate Professors at Dalhousie University. Your participation in this study is voluntary and you may withdraw from the study at any time without penalty.

This study is approved by Dalhousie University, REB #: 2023-6794.

Compensation amount: \$3USD

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### CONSENT FORM

**Project title:** Attitude and preferences towards financial services advertising

**Lead researchers:** Rubina Parvin, rubina.parvin@dal.ca, MSc student at Dalhousie University, Hamed Aghakhani, Aghakhani@dal.ca, Associate Professors of Marketing at Dalhousie University

## **SECTION A - Consent to Participate in this study**

**Introduction:** You are invited to take part in a research study being conducted by Rubina Parvin (MSc student at Dalhousie University), Dr. Hamed Aghakhani (Associate Professor of Marketing at Dalhousie University). Your participation in this study is voluntary and you may withdraw from the study at any time without penalty. The study is described below. This study is described below and also tells you about the risks, inconvenience, or discomfort which you might experience. Participating in the study might not benefit you, but we might learn things that will benefit others.

**Purpose and Outline of the Research study:** The purpose of this study is to understand more about people's attitude towards financial services advertising. This study is designed to test theories related to attitude, evaluation, and preferences. The survey will include a series of questions being used to pilot materials for academic research. In this study you will also be asked to participate in a ball tossing game in order to explore social dynamics and interactions among participants during the game and also help us calibrate our advertisements based on your screen size, before showing it to you.

**Who can take part in the research study:** Any adult individuals living in the United States and being Prolific members with minimum age of 18 can participate in this study.

**Who will be conducting the research:** All aspects of this research will be conducted by the research team listed above.

**What you will be asked to do:** If you choose to participate in this study, you will be asked to assess a financial services advertisement, and some questions about your overall belief, attitude, and preferences in general and more specific towards the ad. Also, you will be asked to participate in a ball tossing video game before seeing the ads, followed by some demographic questions. The study will take around 15 minutes to complete.

**Withdrawal from the Study:** Your participation in this research is entirely your choice. You can stop participating in the study at any time, for any reason, if you decide. Your decision to stop participating, or to refuse to answer questions, will not affect your relationship with the researchers, Dalhousie University, or any other group associated with this project. We will not include any incomplete surveys in our analyses. Additionally, withdrawing from the study will not affect your compensation, however, in order to receive your compensation, you will have to proceed to the end of the questionnaire by clicking next until you reach the end. You will also be given the opportunity to withdraw your data at the end of the study during debriefing, by choosing the options of your choice if you wish to withdraw your data.



**Confidentiality & Anonymity:** Your responses are de-identified, and thus results will be reported with no reference to you specifically. This means that there are no questions in the survey that ask for identifying details such as your name or email address.

**Possible benefits, risks and discomforts:** There are no direct benefits anticipated, but you may gain insights into your own preference. There are no medical risks to you from participating in this study, but taking part in this study may make you feel uncomfortable, fatigued or eye strain may occur. But any discomfort experienced is expected to be minimal. You may refuse to answer questions at any time if you experience any discomfort.

**Compensation:** To thank you for your time, you will receive \$3 USD as compensation agreed on with Prolific when you signed up for this study. You may contact Research Ethics, Dalhousie University at (902) 494-3423, or email [ethics@dal.ca](mailto:ethics@dal.ca)

**Questions or Concerns:** If you have any questions regarding the study, please contact Rubina Parvin at [rubina.parvin@dal.ca](mailto:rubina.parvin@dal.ca), or Hamed Aghakhani at [aghakhani@dal.ca](mailto:aghakhani@dal.ca). If you have any specific ethical concerns about this study, you may contact Research Ethics, Dalhousie University at (902) 494-3423, or email [ethics@dal.ca](mailto:ethics@dal.ca).

## **Consent**

Please click below to confirm that you have had your questions answered to your satisfaction, that you are aware that all records are entirely de-identified, and that you may discontinue participation at any point in the study.

**Please click on the appropriate box to indicate your consent to participate:**

- YES -- I agree to participate
  - NO -- I do not wish to participate
- 
- 

### **SECTION B - Consent to have your de-identified responses stored in a repository that might be used in future unspecified research**

Once the study has been completed, all data files will be stored on a secure Dalhousie server with access restricted only to those personnel on the research team and will be available for future unspecified research. The research team may also post the data to the Open Science Framework (OSF) for public access if it is requested by publisher(s).

The purpose is to enable researchers to conduct further investigations, develop new insights, and contribute to scientific knowledge and to increase the transparency and

replicability of our research. This is a publicly available database but is primarily used by other researchers in the field. Your prolific ID linked to your response will not be used, stored anywhere, thus will be deleted from the dataset. Your data will be stored in accordance with applicable data protection and privacy laws.

Dalhousie University and therefore this research team uses Dataverse @Borealis as its repository OSF. Borealis is a publicly accessible data repository platform, open to affiliated researchers to deposit and share research data openly with anyone in the world. It is free and built with open-source software. It is hosted on Canadian servers, provides data visualization tools for tabular data files, provides DOIs through DataCite Canada and more. During this research we will not ask for any identifiable questions as well as no biological materials, therefore no human biological data will be collected, nor shared with anyone, including the researchers on this project.

### **Consent**

Please click on the appropriate box to indicate your consent to have your de-identified responses stored in a repository:

YES -- I consent to have my de-identified data stored in a data repository.

NO -- I do not wish to have my de-identified data stored in a data repository.

**(Self-Esteem Scale)**

Q1- Below is a list of statements dealing with your general feelings about yourself.

Please indicate how strongly you agree or disagree with each statement.

	Strongly Disagree	Agree	Neither disagree nor agree	Disagree	Strongly agree
1. On the whole, I am satisfied with myself.	1	2	3	4	5
2. At times I think I am no good at all.	1	2	3	4	5
3. I feel that I have a number of good qualities.	1	2	3	4	5
4. I am able to do things as well as most other people.	1	2	3	4	5
5. I feel I do not have much to be proud of.	1	2	3	4	5
6. I certainly feel useless at times.	1	2	3	4	5

- |     |  |   |   |   |   |   |
|-----|--|---|---|---|---|---|
| 7.  | I feel that I'm a person of worth, at least on an equal plane with others. | 1 | 2 | 3 | 4 | 5 |
| 8.  | I wish I could have more respect for myself.                               | 1 | 2 | 3 | 4 | 5 |
| 9.  | All in all, I am inclined to feel that I am a failure.                     | 1 | 2 | 3 | 4 | 5 |
| 10. | I take a positive attitude toward myself.                                  | 1 | 2 | 3 | 4 | 5 |
- 

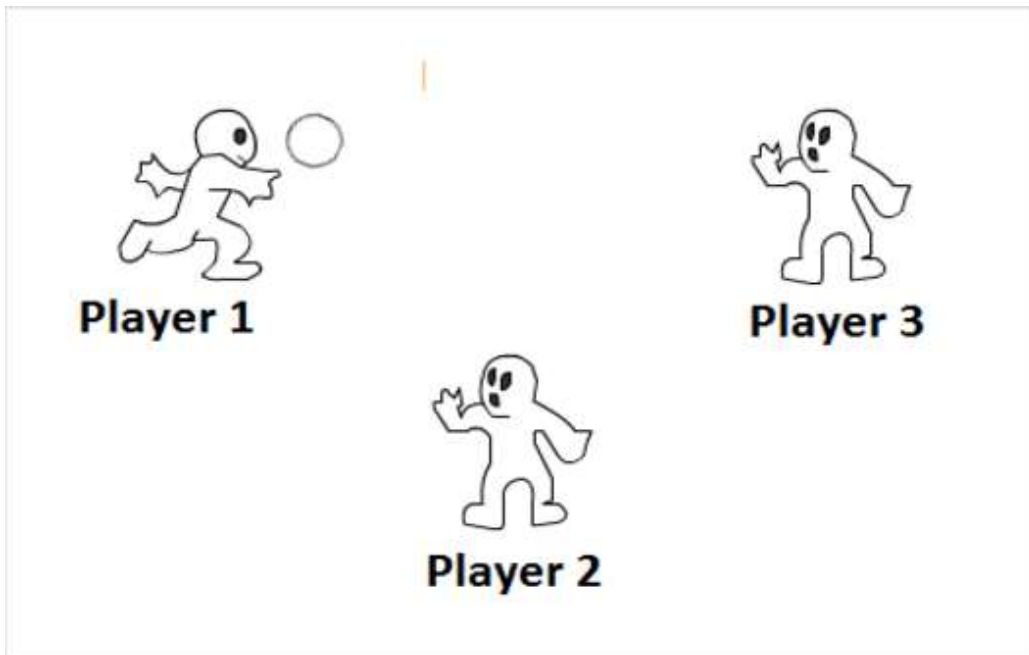
### **(Cyberball Game Announcement- Manipulation of Social Exclusion)**

As a preliminary task of this study, you are asked to play a simple ball tossing game with other participants who are logged on at the same time. The game is very simple. When the ball is tossed to you, simply click on the other player you want to throw the ball to. When the game is over, just go on to the next page of the survey. The game aims to explore social dynamics and interactions among participants during the game and also help us calibrate our advertisements based on your screen size, before showing them

to you. If you do not wish to play the game, click the next button at the bottom of this page to move to the next section of this study.

**Next button may appear after a short delay, so please be patient.**

Here was the interface of this game:



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Thank you for playing the game. We are now able to show you an ad that is customized based on your screen size. Please carefully review this ad. When you reviewed the ad, please move to the next page and you will be then asked some questions about this ad. (I created both advertisements taking help from a few online sources).

**(Manipulation of Conventional vs Responsible Investment)**

## Responsible Investment Ad



### Pursue

A better future by fueling your portfolio with Sunflower Inv. that helps your portfolio grow responsibly.

Responsible investment serves as a driver for positive transformation, providing the opportunity for returns that match those of traditional investments. Sunflower Investment empowers you to pursue your financial aspiration while simultaneously making a meaningful difference in communities and environment.

[www.sunflowerinvestment.com](http://www.sunflowerinvestment.com)



Sunflower  
Investment LLC.



Conventional Investment Ad



The key is on you to grow your wealth and secure your financial future. Sunflower Investment empowers you to pursue your financial aspiration.

[www.sunflowerinvestment.com](http://www.sunflowerinvestment.com)



Sunflower  
Investment LLC.

**(Dependent Variable 1: Attitude towards the Advertisement)**

Q2. How do you feel about the overall advertisement you just saw?

Bad	1	2	3	4	5	6	7	Good	
Unfavorable	1	2	3	4	5	6	7	Favorable	
Unlikable		1	2	3	4	5	6	7	Likable
Negative		1	2	3	4	5	6	7	Positive

**(Dependent Variable 2: Attitude towards the Investment Portfolio)**

Q3. How do you feel about the investment portfolio advertised in the ad?

Bad	1	2	3	4	5	6	7	Good	
Unfavorable	1	2	3	4	5	6	7	Favorable	
Unlikable		1	2	3	4	5	6	7	Likable
Negative		1	2	3	4	5	6	7	Positive

**(Dependent Variable 3: Preference to Invest)**

Q4. Indicate your investment preference for this portfolio.

I am strongly against investing in this portfolio(1)                      I will strongly consider  
investing in this portfolio.(7)

1 2 3 4 5 6 7

**(Dependent Variable 4: Willingness to Invest)**

Q5. If you have extra money and are looking for financial investments, would you be willing to invest in the portfolio advertised above?

Not interesting at all 1 2 3 4 5 6 7 Extremely interesting

Q6. Indicate how interested are you in learning more about this investment portfolio.

Extremely unlikely 1 2 3 4 5 6 7 Extremely likely

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**(Mediator 1: Desire for altruism measurement scale)**

Q7. These questions are designed to help us understand how individuals like you think about the role of personal responsibility and social responsibility in decision-making. There is, of course, no right answer to these statements. Please answer each question honestly and to the best of your ability.

Right now, I am feeling good to be able to contribute a little to society, even if I could choose otherwise.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

At this moment, it is more important to make society and the environment better than personal gain.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Right now it is important to me to make the appropriate choice for the betterment of the society and environment.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

Right now I believe that fulfilling obligations takes precedence over self-interest.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

At this moment I believe, it is important to take actions that contribute to a better world for future generations.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

At this moment, I feel that it is a personal responsibility to make positive changes in the society I live.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I am willing to make sacrifices in my daily life to support the growth and development of future generations.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

At this moment, I believe it is important to engage in activities that will have a positive impact even after I am gone.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

At this moment, I feel a sense of compassion towards others and want to help them.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

---

**(Investment Ad Manipulation Check Questions)**

Q8. Please review the following statements and rate each statement honestly and to the best of your ability.

I find this investment portfolio responsible.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I find this investment portfolio considers environmental factors for better future.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I find this investment portfolio considers social factors for better future.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I find this investment portfolio considers governance factors for better future.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

---

**(Mediator 2: Need for Belongingness Scale and Need for Power Scale)**

Q9- These questions are designed to measure what you were thinking while you were playing the Cyberball. There is no right answer for any of these statements. The best

answer is what you felt when you were playing the game. Be sure to answer all of the items, even if you are not certain of the best answer.

I really felt like I belong with others.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I had a sense of belonging on my mind.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I had a sense of connectedness to other people

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

Q10. Please indicate how did you feel while playing Cyberball \_\_

Powerless                    1            2            3            4            5            6            7            Powerful

Without control            1            2            3            4            5            6            7            in control

Weak                        1            2            3            4            5            6            7            Strong

Inferior                    1            2            3            4            5            6            7            Superior

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**(Moderator 2: Temporal Orientation (Consequence for Future Consideration) Scale)**

Q11. Below is a list of statements dealing with your feelings about yourself at this moment. There are no right or wrong answers to these statements. Please indicate what describes you best.

I consider how things might be in the future and try to influence those things with my day-to-day behavior.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I think it is more important to perform a behavior with important distant consequences than a behavior with less important immediate consequences.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

Q12. Before this research, have you ever played Cyberball-ball tossing game in the past?

- Yes
- No

**(Social Exclusion Manipulation Check Questions Scale)**

Q13- How did you feel while you were playing the Cyberball game at the beginning of this study:

I felt disconnected.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I felt rejected.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I felt like an outsider.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I felt I belonged to the group.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

I felt the other players interacted with me a lot.

Strongly Disagree    1    2    3    4    5    6    7    Strongly Agree

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**(General questions)**



Q14. How would you rate your investment knowledge:

Not knowledgeable at all    1    2    3    4    5    6    7    Extremely  
knowledgeable

Q15. Do you have at least one investment account at any financial institution?

- Yes
- No
- Prefer not to answer

Q16. In the past year, have you invested money in your investment account(s)?

- Yes
- No
- Prefer not to answer

Q17. How would you rate your investment experience (choose one):

- I have already invested money in sustainable funds.
  - I have never invested money in sustainable funds, but I am interested in investing in it.
  - I have not invested money in sustainable funds, nor am I interested in investing in sustainable funds.
-

Q18. What is your gender?

- Male
- Female
- Non-binary
- Prefer not to say
- Prefer to self-describe

Q19. Is English your first language?

- Yes
- No

Q20. How old are you (in years)?

### **Debriefing**

Thank you very much for participating in this study! Your cooperation, work, and enthusiasm are all greatly appreciated. The purpose of this study was to investigate how

different social experiences might influence investment decisions. During the study, we asked you to play an online ball-tossing game, complete a questionnaire about investment preferences, and answer some questions about your social experiences. We manipulated the social experiences of some participants to induce feelings of social exclusion through the Cyberball game, that is you were randomly assigned to either the exclusion condition or the control condition. The game is programmed to either toss the ball to you or not depending on what conditions you were randomly assigned (exclusion conditions vs control conditions). In the Cyberball game, participants who were in the exclusion condition received around 20% ball tosses and participants in the control condition got 80% of the ball tosses.

If you were assigned to the exclusion condition, you received fewer ball-tosses, which might have led to feelings of social exclusion. This helped us understand how different types of social experiences and interactions could influence investment attitudes and preferences. You were not informed about this aspect because knowledge of the study's purpose could have influenced your response. Overall, we wanted to see whether socially excluded individuals are more interested in responsible investment compared to those who were not excluded. In this study, we are comparing the attitudes and evaluations of the investments shown to you and compare the results between those who were excluded and those who were not.

If you found the experience of social exclusion during the study to be distressing, we want to encourage you to take care of your mental well-being. It is normal to have emotional responses to certain situations, and it can be helpful to reach out for support if needed. If you feel that your feelings of distress persist or if you have any concerns about

your mental health, we strongly recommend seeking guidance from a mental health professional or reaching out to appropriate helplines

(<https://www.nimh.nih.gov/health/find-help>) or resources in your area.

We would like to reassure you that all responses were kept anonymous and confidential. Your participation is voluntary, and you are free to withdraw at any time without any penalty. If you choose to withdraw your consent for the use of your data, we will directly remove your data from the database. Your compensation for this study will not be affected by your decision to withdraw.

The plan for this study has been reviewed by the Research Ethics Board at Dalhousie University. If you have questions about your rights or how research should be conducted, you can contact Research Ethics, Dalhousie University at (902) 494-3423, or email [ethics@dal.ca](mailto:ethics@dal.ca) (and reference REB file # 2023-6794).

If you are interested in learning the result of this study, please contact Rubina at [rubina.parvin@dal.ca](mailto:rubina.parvin@dal.ca), we will share the overall result with you when it is available.

Use the buttons below to either confirm your consent for the use of your data or, if you wish, or to withdraw your data.

- I confirm my consent and you can use my data (Participant mode)
- I wish to withdraw my data (Observer mode)