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Striving for a moral future: future individual and collective continuity increases present-day moral considerations

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Dedicated to the memory of my grandfather, Milisav, my grandmother, Gordana, and my dear friend, Rade. You are gone but your belief in me has made this journey possible.

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Abstract

For the future to affect our present, we must first hold it in high regard. One way to view the future as important is to feel a psychological connection to it. Individuals experience temporal continuity when they perceive strong links between the present, past, and future (Block, 1961; Becker et al., 2018; Rutt & Löckenhoff, 2016). One can perceive temporal continuity on two levels of identity: the individual and the social.

Self-continuity is the degree to which one believes they are the same person over time (Sedikides et al., 2015) and is essential to one's self-esteem and wellbeing (Dunkel, 2005; Jonhson & Nozick, 2011; Sedikides et al., 2022; Sokol & Serper, 2019). Strong evidence exists that feeling continuity with the past affects present moral behavior. For example, Stanley and colleagues (Stanley & De Brigard, 2019; Stanley et al., 2019) argued that our past immoral acts could strategically be used to define who we are or whom we wish to be in positive terms. Similarly, memories with positive moral content are perceived as more recent (Escobedo & Adolphs, 2010). Engaging in unethical behavior produces changes in memory so that memories of unethical actions gradually become less clear and vivid than memories of ethical actions ("unethical amnesia," Kouchaki & Gino, 2016), while recalling past immoral behavior might evoke compensatory moral behavior in the present (Jordan et al., 2011).

Individuals can also be connected to their perceived ingroup's past or future. Sani et al. (2007) define collective continuity as the belief that the group's culture is trans-generationally transmitted through time (cultural continuity) and that a coherent link between its important historical events exists (historical continuity). On the group level, temporal continuity is related to social identity aspects such as ingroup identification, collective self-esteem (Sani et al., 2007; Smeekes & Verkuyten, 2014a), and social well-being (Sani et al., 2009; Jetten & Wohl, 2012). Because a strong social identity can result in

different reactions to ingroup and outgroup members (Billig & Tajfel, 1973; Branscombe et al., 1993; Brewer & Pierce, 2005; Park & Judd, 2005), collective continuity can differently affect group-level moral judgments and behaviors. For example, the perception of the ingroup's temporal coherence results in stronger inclinations to protect it (Wohl et al., 2010) and decreases tolerance for the outgroup members (Brewer & Pierce, 2005; Smeekes & Verkuyten, 2014b).

While projecting oneself to past events is a strong motivator of present behavior, thinking about the future might also affect our current decisions. Specifically, individuals are capable of imagining and thinking about future events (D'Argembeau et al., 2010; Daniel et al., 2015; Dassen et al., 2016; Gaesser et al., 2018; Monroe et al., 2017; Vonasch & Sjåstad, 2021; Wu et al., 2017) and give varying levels of importance to their future selves (Chisima & Wilson, 2021; Ersner-Hershfield, Garton, et al., 2009; Sokol & Serper, 2020; Sedikides et al., 2022) or the future of their group entities (Shrikhanth et al., 2018; Spuznar & Spuznar, 2016; Wohl & Branscombe, 2008, 2010).

In this thesis, we are building on the present work regarding self- and collective continuity by examining how projections about our future individual and collective selves affect how we think about and understand right and wrong today. Specifically, this thesis aims to show how are future self- and collective continuity related to present ethical judgments, decisions, and behavior. We explore the notion that the possibility of perceiving a clear psychological overlap between the (individual and social) selves over time might help shift towards selfishness to openness and care for others.

Chapter 1 presents an overview of the relevant theoretical concepts and frameworks. Namely, we define future self- and collective continuity and review studies regarding their effects on present moral behavior and deliberations. In Chapter 2, we describe seven studies that examined the relationship between future self-continuity and moral foundations. These studies had five primary aims: understand how future self-continuity relates to individualizing and binding moral foundations (Studies

1-7), develop and study the effects of a future self-continuity manipulation on moral foundations judgments (Studies 2-3), examine the mediational role of moral identity centrality (Studies 4-6), disentangling the effect of different temporal and self-framings on moral foundations concerns (Studies 5-6), and attempting to generalize the effect of future self-continuity to real-life moral behavior using experience sampling methods (Study 7). Studies 1-6 are reported in a manuscript in preparation for submission (Simić, A., Sacchi, S., Perugini, M. *Being Righteous for The Future Self: Future Self-Relatedness Increases Moral Foundation Considerations*). Study 7 is included in another manuscript in preparation for submission (Simić, A., Sacchi, S., Perugini, M. *Treat Others as You Would Treat Your Future Self: Future Self-Relatedness Predicts Moral Judgements and Behavior in Everyday Life*)

Chapter 3 covers the results of two studies interested in understanding the structure of collective future continuity and its relationship to outgroup prosocial behavior. Specifically, these studies aimed to: define the structure of collective future continuity, present preliminary correlational evidence on its effect on prosocial beliefs and judgments (Study 8), and prosocial normative expectations, and explore the mediation effect of collective angst (Study 9). The studies described in this chapter are reported in a manuscript currently submitted for publication (Simić, A., Sacchi, S., Perugini, M. *Our Ways Will Not Change: Collective Future Continuity Increases Present Prosocial Considerations*). Finally, Chapter 4 concludes and discusses the findings presented in this thesis. We also reflect upon the limitations of our work and theoretical and methodological implications, and future directions.

Chapter 1: Introduction

The ability to imagine and think about different points in the timespan strongly relates to how an individual behaves here and now. Mental time travel (MTT) is commonly understood as the ability to project oneself to different temporal states and events. When one is trying to remember their memories, they engage in past episodic or autobiographical thinking (Conway & Pleydell-Pearce,

2000; Rubin, 2006; Tulving, 1983), while future episodic thinking enables individuals to contemplate upcoming events (Atance & O'Neill, 2001, Schacter & Addis, 2007). Both past and future MTT affect present moral deliberation and behavior. For example, thinking abstractly about past ethical behavior motivates current moral behavior (moral consistency and compensation; Conway & Peetz, 2012; Cornelissen et al., 2013). On the other hand, engaging in episodic future thinking increases the sensitivity to moral norms and values when judging present behavior (Gaesser et al., 2018; Monroe et al., 2017; Vonasch & Sjåstad, 2021; Wu et al., 2017).

One way the future can influence our present behaviors, expectations, and thoughts is to perceive it as psychologically close. Temporal continuity, the perception of strong links between the present, past, and future (Block, 1961; Becker et al., 2018), was shown to increase the temporal closeness of distant events and thus make them important for present decision-making (Croote et al., 2020; Rutt & Löckenhoff, 2016; Trope & Liberman, 2010). Besides physical objects and events, individuals can also perceive the continuity of psychological constructs on the temporal landscape (D'Argembeau et al., 2010; Daniel et al., 2015; Dassen et al., 2016; Gaesser et al., 2018; Monroe et al., 2017; Vonasch & Sjåstad, 2021; Wu et al., 2017). The concept of identity is no exception. It is possible to differentiate between different temporally distant or close selves (Chisima & Wilson, 2021; Ersner-Hershfield, Garton, et al., 2009; Sokol & Serper, 2020; Sedikides et al., 2022), as well as perceive extended parts of the self, such as the ingroup as stable or everchanging temporal entities (Sani et al., 2007, 2009). In other words, it is possible to experience temporal identity on the individual (personal) and social identity levels. Chapter 1 aims to cover a detailed theoretical overview of future self- and collective continuity and their hypothesized effect on present moral judgments and intuitions.

1.1. Future Self-Continuity

To be able to deliberate about their world and navigate themselves in the environment, people need to organize their knowledge about different objects, events, and memories. As commonly known in sociopsychological literature, schemas are cognitive structures that serve that purpose. They are used to understand and describe various categories of knowledge about the world (Brewer & Treyens, 1981). As with many other things we encounter and think about daily, we also have a schema about ourselves. These self-schemas carry the knowledge about our traits, interests, values, and motives, which are organized into an image of ourselves or the self-concept (Markus, 1977). Early psychological work conceptualized self-concept as a global core of our self-knowledge. For example, Allport (1950) argues that the self-concept is a stable and unchanging structure of our personality resistant to present contextual changes. Similarly, Rosenberg (1965) advocated the self-concept as a totality of our attitudes, thoughts, and feelings directed toward the self. However, this broad definition does not allow for identifying the intricacies and changes people experience in understanding themselves over time (Rosenberg et al., 1995).

Long before modern psychological science initiated studying the self, Willian James (1890) distinguished between the thinking (‘’I’’) and the empirical (‘’Me’’) part of the self. Furthermore, he viewed our self-knowledge as multifaceted, with ‘’the bodily self at the bottom, the spiritual self at the top, and the extracorporeal material selves and the various social selves between’’ (p. 313). Building on this tradition, the Multiple self-models propose the existence of a corpus of overlapping selves (Parfit, 1971, 1984; Schelling, 1984; Elster, 1985; Thaler & Shefrin, 1981; Bartels & Rips, 2010; Hershfield, 2011). The selves act independently of each other, and their salience depends on the level of their perceived importance. In that regard, Parfit (1984) argued that most people do not perceive their identity as continuous over time. More specifically, an individual can perceive the future self as an entirely different person depending on how much they feel connected to it. According to Parfit's views,

the connection with our future selves wanes over time. More proximal future selves instill higher degrees of connection than their distant counterparts. If the connection with a future self is low, people do not feel rationally obligated to consider current behavior's consequences on their future well-being (Parfit, 1984). In general, several studies have confirmed this hypothesis. The treatment of a distant future self is no different from that of another person (Pronin & Ross, 2006; Pronin et al., 2008; Burum et al., 2016). In other words, people are not inclined to consider the long-term benefits of their actions.

Bartels and Rips (2010) identified two factors influencing the connection with the future self. First, building on the work by Pronin and Ross (2006), they found that higher psychological connectedness is related to decreased temporal distance. Furthermore, extending on these findings, the authors identified a second factor that increases future self-continuity: the perceived change of the future self. Individuals are more connected to their future selves if they do not perceive substantial changes in their values, traits, and goals on the future horizon (Bartels & Rips, 2010, Studies 3-5; Bartels & Urminsky, 2015). People generally expect fewer similarities between their current and distant future selves. The lack of connection with our distant future selves might not be increased through temporal distance per se, but rather the feeling that our self in the future is different from us now.

One interesting implication from Parfit's theory (1971, 1984) is that greater concern for the distant future self leads to more responsible behavior in the present. Individuals often act short-sighted when presented with an intertemporal choice (i.e., decisions that have consequences at different time points, Frederick et al., 2002; Kirby, 1997; Kirby & Maraković, 1995), preferring immediate rewards over long-term ones because they do not consider their future self. Specifically, people are motivated to keep all gains for themselves rather than sharing benefits with their future selves. Then, a greater concern for the future self's well-being would imply more responsible present behavior. It is important

to specify that Parfit's definition of said "well-being" was broad. Aside from physical and psychological health and safety, Parfit additionally emphasized social consequences such as reputation and social standing changes. If future self-continuity strongly affects present responsibility, examining the pathways to increase it might be worthwhile. One such possibility is to understand what composes future self-continuity.

1.1.1. The Structure of Future Self-Continuity

To understand how future self-continuity affects decision-making here and now, one may consider the effects of different pathways to increase the connection to our future selves. Parfit (1971) proposed that individuals observe their degree of connectedness by finding evidence of similarities, vivid representations, and positive attitudes toward the future self. Indeed, individuals elicit greater connection and responsibility towards others when they feel similar to them (Eisenberg & Miller, 1987; Galak et al., 2011), can distinctly imagine their struggles (Kogut & Ritov, 2010; Small & Lowenstein, 2003), and generally like other people (Stel et al., 2010; Waugh & Frederickson, 2006).

Assuming that, when everything else remains constant, individuals perceive their future selves as different entities (Pronin & Ross, 2006; Pronin et al., 2008; Burum et al., 2016), Hershfield (2011) developed the Future self-continuity model to explain the possibilities to augment the connection to ourselves in the future. The model proposes a triarchic structure of future self-continuity.

First, it is possible to increase future self-continuity by highlighting the temporal stability of several important self-characteristics. Future self-*similarity* is related to the degree one expects that their future self will share the same beliefs, values, and personality as they do now. Pioneering research on future self-continuity focused on the relationship between the similarity component and temporal discounting, the tendency to value temporally closer rewards more than more distant ones (Frederick et al., 2002). Ersner-Hershfield, Garton, and colleagues (2009) found correlational evidence that future

self-continuity is related to the temporal discounting of monetary rewards. In Study 1, participants that reported a bigger overlap between their present and future selves also showed lower discounting rates on the temporal discounting task (Kirby & Maraković, 1996). Study 2 extended these results to a more ecologically valid measure of temporal discounting: real-life saving behavior. Once again, participants with higher levels of future self-similarity reported having more saved assets over time. Thus, increased future self-continuity would promote saving for the times ahead. Neuroscience evidence suggests that temporal discounting is primarily predicted by individual differences in responses to current vs. future self-relevant information (Ersner-Hershfield, Wimmer, et al., 2009). In this study, a greater overlap between the neural pathways activated when thinking about the present and future self-predicted lower discounting rates. It seems that the effect of future self-similarity extends beyond financial decisions. Bartels and Rips (2010, Study 2) showed that the relationship is also present with non-monetary rewards like choosing between having a certain number of good as opposed to bad days in the present and sometime in the future. Finally, Bartels and Urminsky (2015, Study 4) experimentally manipulated future self-similarity by asking participants to read a brief passage about psychological studies regarding identity change. Participants that read about results highlighting the stability of core identity traits over time demonstrated more patient decision-making than participants reading about research highlighting identity change.

Second, individuals with high future self-continuity can imagine their future selves to be more real than others. Hence, future self-*vividness* is related to one's ability to picture their future self vividly. Hershfield and colleagues (2011) devised a set of four experiments to study whether a vivid representation of the future self induces saving behavior in the present. The interaction with a virtually-rendered aged self in virtual reality decreased the temporal discounting of participants compared to participants interacting with their current selves (Study 1) and an aged self on another person (Study 2). The same authors generalized these findings to field conditions by asking participants to choose how

much money from a hypothetical paycheck they would allocate to a retirement fund by moving a slider from left to right (Study 3a). One group of participants interacted with their virtual future selves as they changed their facial expressions from sad to happy when participants moved more money to the retirement fund. The other group interacted with the avatars of their present selves, showing more happiness when participants allocated less money to future consumption. As expected, the vivid representation of the future self fostered a greater tendency to save money. The authors replicated this result pattern when presenting participants with neutral faces of their present/future selves while working on the same money allocation task (Study 3b). The effect of future self-vividness might also extend to non-monetary choices. For example, participants engaged in a letter-writing task to increase the vividness of their distant future self showed greater social responsibility showcased by COVID-19 guidelines adherence than participants imagining their proximal future self or other people (Simić et al., 2021).

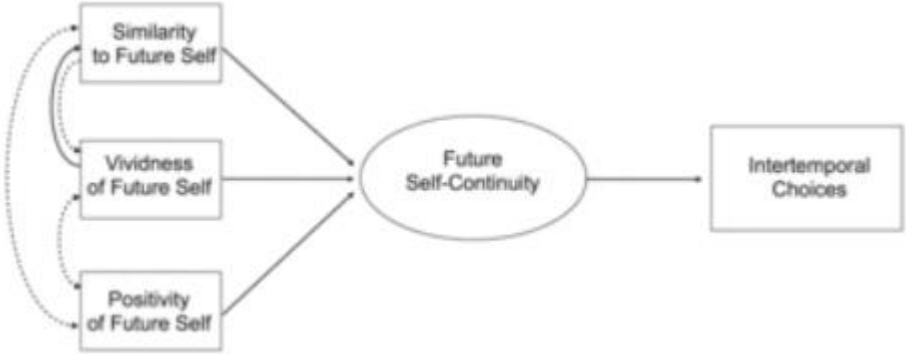
Third, an individual can also form an attitude toward their future self. Thus, the last facet of future self-continuity is named *Positivity* and describes the tendency to view the future self in a more positive light. While previous work did not attempt to study the effects of future self-positivity on responsible decision-making, some studies have used and manipulated attitudes toward the elderly as a proxy for liking the future self. For example, more positive attitudes about the elderly are related to greater national savings rates (Hershfield & Galinsky, 2011, Study 1). Furthermore, taking the perspective of a psychologically close older adult (Hershfield & Galinsky, 2011, Study 2) and showing respect for the elderly (Hershfield & Galinsky, 2011, Study 2) seems to boost saving behavior when compared to thinking about young people or the elderly in a more psychologically distant fashion.

To sum up, robust evidence exists that future self-continuity is linked with indicators of temporal discounting: from psychological measures of this construct (e.g., the temporal discounting

task) to real-life behavior such as saving intentions and rules adherence. Based on the theoretical Future self-continuity model (Hershfield, 2011) shown in Figure 1., feeling close to the future self might promote a willingness to tolerate short-term losses for long-term benefits by developing a stronger feeling of responsibility for the future self. Individuals might become more responsible when they become aware that their present decisions have important consequences for their well-being and safety in the future.

Figure 1.

The Future Self-Continuity Model. Adapted from Hershfield (2011).



The effect of future self-continuity may extend far beyond self-directed behavior. The Future self-continuity model sees the perceptions of present-future connection as crucial in intertemporal choices. The greater individuals perceive the overlap between the present and future self, the more likely they are to make far-sighted choices. On the other hand, being unable to project the future of the self leads to self-control failures. This logic applies to all behaviors where a temporal trade-off occurs: whether to act for short- or long-term gain. Individuals with a strong connection to their future selves might also be concerned about how their future selves and others might feel about their present actions. In other words, just as they might be willing to save financial capital for later, they could be motivated

to maintain ethical capital in terms of positive self-traits and reputation. Therefore, it might be relevant to study how future self-continuity affects one crucial part of the self, the moral domain.

1.1.2. Future Self-Continuity and Morality

When people give in to temptations, they are usually unable or unwilling to look beyond the horizon. Simply put, unethical behavior might be related to self-control failures (Ainslie, 2010, 2012, 2013). Indeed, the depletion of self-regulatory mechanisms is linked with ethical misdeeds such as lying and cheating to achieve a particular goal (Gino et al., 2011; Mead et al., 2009). Failing to act ethically could thus be seen as a result of favoring short-term over long-term gains (Gneezy, 2005). In that regard, ethical decision-making could be framed as a specific type of *intertemporal choice* where acting unethically represents a strong motivation to achieve short-sighted goals (e.g., gaining an advantage by lying). In contrast, ethical decisions include a strong orientation toward long-term results (e.g., remaining honest by not lying).

Previous work on the moral trajectory of the self focused on the past. In this vein, a considerable body of research showed that individuals tend to use past immoral acts to construct their present selves or to identify who they strive to be. Stanley and De Brigard (2019) argue that individuals use their autobiographical memory in two ways to foster their positive self-perceptions. First, they aim to distance themselves from past immoral behavior. For example, people tend to forget details of events regarding dishonest behavior actively (Shu et al., 2011). Likewise, unethical actions gradually become less clear and vivid than memories of ethical actions (Kouchaki & Gino, 2016), whereas memories with positive moral content are perceived as more recent (Escobedo & Adolphs, 2010). Second, they tend to highlight moral improvement by evaluating distant transgressions as more severe than recent ones. Thus, people are more prone to recognize their immoral behavior for distant past episodes than for close past episodes (Stanley & De Brigard, 2019; Stanley et al., 2018, 2019). This line of work focuses

on the past and highlights that people use their past selves to construct a (positive) moral current self. By following the temporal self-trajectory, it is reasonable to ask whether people would be willing to sacrifice current self-needs to stay moral in the future.

Hershfield and colleagues (2012) propose that one way to consider the ethical consequences of current actions is to feel connected to one's future self. They conducted five studies to test this hypothesis. In Studies 1a and 1b, higher future self-continuity predicted lower tolerance of unethical business decisions. Study 2 indicated that consideration of future consequences mediates the relationship between future self-continuity and sensitivity to unethical decisions. Furthermore, the authors demonstrated that low future self-continuity predicts some concrete unethical behaviors such as lying, making false promises, and cheating (Study 3), and that relationship was significant when controlling for different personality variables (Study 4). Finally, Study 5 provided experimental evidence of the relationship between future self-continuity and ethical judgments. Participants who wrote an essay about their future self were less likely to support unethical negotiation strategies than participants who wrote an essay about the general future. These results were not identified for more neutral or appropriate negotiation strategies.

Similarly, Van Gelder and colleagues (2013) used two future self-continuity interventions to decrease delinquent behavior. In Study 1, an intervention to increase future self-vividness with a letter-writing task successfully decreased delinquent inclinations such as buying stolen products, theft, insurance fraud, and illegal downloading. Study 2 used the procedure designed by Hershfield and colleagues (2011) and had participants interacting with either their aged-progressed or selves in a virtual reality setting. A vivid representation of the future self reduced cheating rates to earn additional monetary incentives in a quiz. Another study generalized these findings to field settings. Van Gelder and colleagues (2015) asked participants to answer questions from either a future (age-progressed) or a current self digital avatar about their future or current daily activities for one week. After finishing the

experimental task, participants were asked to indicate their future self-vividness and involvement in delinquent activities such as skipping school, stealing, and hitting someone. Participants interacting with their future self showed lower delinquency rates than present self participants by increasing their future self-vividness.

All in all, these studies indicate that a crucial role of the similarity component in increasing ethical considerations. Greater self-control exhibited by individuals with high future self-similarity might result from self-concept maintenance (Hershfield et al., 2012). In other words, greater ethical considerations might arise from the need to remain good in the future. In other words, individuals are aware that unethical decisions will probably hurt the reputation or status of their future selves.

The mentioned studies conceptualized morality as specific moral transgressions. However, the antecedents of moral actions cannot be limited only to observable moral behaviors; they present a complex interplay between effects, doubts, and judgments of whether something is right or wrong (Blasi, 1980; Haidt, 2001, Haidt & Joseph, 2004). Hence, to understand how future self-continuity affects moral deliberations that underlay moral behavior, one needs to study its effect on general moral intuitions beyond the behavioral level of ethics. For this reason, we started with the Moral Foundations Theory (MFT) to study inherent ethical concerns.

1.1.2.1. The Moral Foundations Theory

Early psychological attempts at studying morality adopted a rationalist approach to understanding moral judgments. For example, according to Piaget (1932/1948) and Kohlberg (1969), moral reasoning is a cognitive activity that considers specific issues such as harm and justice. In their approaches, one passes judgment onto others based on how much their actions did harm to someone or violated someone's rights. Haidt (2001) criticizes Kholberg for his cognitive perspective and argues that emotional and intuitive processes influence moral judgments. In general, current research in moral

psychology experienced a gradual shift from studying morality as a rational process to focusing on more intuitive aspects of moral reasoning (Hauser, 2006; Mikhail, 2007; Miller, 2008). Haidt's approach is the prime example of this shift. He emphasizes that morality should not be confined to moral concerns related to harming other living beings (Haidt, 2008). Specifically, he advocated for an eclectic approach to defining morality.

Haidt and Joseph (2004) reviewed works in anthropology, psychology, and evolutionary theories about human and primate socialization to accomplish this goal. They inquired about virtues present in different cultures and historical epochs for whom a plausible evolutionary explanation exists. This search led to a proposal of five clusters of moral issues, which they called "foundations". Haidt and Joseph (2004) claimed that every culture uses these foundations to develop individual and group moralities. Haidt and his colleagues (Haidt & Graham, 2007; Graham et al., 2009) further developed this perspective into The Moral Foundations Theory (MFT). The theory argues that intuitive psychological mechanisms created during adaptation processes are shaped into a more deliberate moral system through rationalization (Graham et al., 2011). According to MFT, humans acquired five distinct moral foundations through evolution. *Care* relates to empathetic concerns about the suffering of others, such as caring, nurturing, and protecting. *Fairness* was identified in writings focused on fairness, reciprocity, and justice.

While the first two foundations fit well into the rationalist approach to morality, the MFT posits that humans also recognize virtues concerning their ingroups. Specifically, Haidt and Joseph (2004) identified human concerns about self-sacrifice, ingroup love, and loyalty as the *Loyalty* foundation. Likewise, people seem to value the foundation of *Authority*, which can be found in the tendency to value social hierarchy and respect those above the hierarchical ladder. Finally, *Purity* refers to values of physical and psychological sanctity often seen in religious texts.

Haidt (2008) proposes that the five foundations form two distinct moral systems that "suppress or regulate selfishness" (p. 70). In other words, the two moral systems make living in society possible. Some cultural systems teach individuals to respect the rights of others and inflict no harm. On the other hand, some cultures use groups and institutions to emphasize the importance of duty, rules, and loyalty. Accordingly, Graham and colleagues (2009) named these systems based on whether they are person- or group-focused. They called the former *individualizing* moral foundations because they encompass harm and justice, which are concerned with individual rights and freedoms. The latter carries the name *binding* moral foundations and includes loyalty, authority, and purity, emphasizing the importance of group memberships.

There is an ongoing debate inside MFT as to why some individuals (and cultures) rely on one group of foundations more than others. This research question was examined in studies concerned with the relationship between moral foundations and political ideology. Haidt and Graham (2007) found that liberals endorse individualizing moral foundations more than their binding counterparts. On the other hand, conservative people value all five foundations equally (Graham et al., 2009). Haidt and colleagues (2009) further dissected the complex relationship between ideology and moral foundation endorsement. Their study suggested that secular left-wing-oriented individuals give importance to individualizing foundations while disregarding the remaining three pillars. Furthermore, religious leftists showed equal support for both groups of moral foundations, while social conservatives strongly endorsed binding foundations at the expense of their individualizing counterparts. These findings led to a hypothesis that humans are born with all five foundations, but some become more relevant during development (Haidt & Graham, 2007; Graham et al., 2009; Haidt, 2012). Environmental factors influence individual differences in the suppression of binding foundations due to different family, culture, and educational experiences (Haidt et al., 2009; Graham et al., 2009). According to the cognitive suppression hypothesis, growing up in liberal environments focused on individual rights and

freedoms instills the suppression of binding pillars. This theoretical view is supported by research that shows that moral judgments of liberals and conservatives become similar under cognitive load (Skitka et al., 2002; Van der Vyer et al., 2016).

However, recent research is not in favor of the cognitive suppression hypothesis. Wright and Baril (2011) asked one group of participants to complete a filler task (writing about a zoo visit) before filling out the moral foundations' endorsement measure. The other two groups in their study were exposed to either a self-regulation depletion (see Wegner et al., 1987) or a cognitive load (counting the number of high-pitched tones on an online metronome) condition while filling out the same measure. Both tasks compromised the ability to monitor and regulate automatic moral responses. They found that in the cognitive/load conditions, conservatives devalued the binding foundations more, thus becoming more similar to liberals. In other words, their work suggests that differences between liberals and conservatives are not born from liberals' cognitive suppression of binding moral values but from conservatives' enhancement of binding foundations justifications. Put differently, conservative environments highlight the importance of group ties and traditions and make binding foundations more accessible when making moral judgments.

It seems that factors other than cognitive load affect the accessibility of moral foundations (Graham et al., 2013; Van Berkel et al., 2015). For example, Napier and Luguri (2012) were interested in whether changes in thinking style might contribute to moral foundation reliance shifts. Their participants were assigned to either an abstract or concrete thinking manipulation before working on the moral foundations' measure. While their analysis replicated the previous findings that liberals value the binding foundations less, they also identified an effect of their experimental manipulation. Participants who were prompted to think more abstractly, regardless of their political orientation, valued individualizing moral foundations more than binding ones. On the other hand, participants

exposed to the concrete thinking condition favored binding moral foundations more. Relatedly, Yilmaz and Saribay (2017) adopted a similar research design and showed in two experiments that priming analytic thinking before reporting moral foundations levels increased the reliance on individualizing moral foundations compared to the control condition. As in the study by Napier and Luguri (2012), the effects remained consistent when controlling for political orientation. This line of work suggests that harm and justice might act as core, innate values for all people, irrespective of their ideologies.

However, conservatives might broaden their moral compass to three additional foundations during development. In other words, individualizing moral foundations might be relevant across different times and places. People share them regardless of their cultural and ideological backgrounds. The opposite might be true for their binding counterparts: they could be more contextually and situationally constrained (Baril & Wright, 2012; Wright & Baril, 2011). Binding moral foundations might become more accessible in specific situations where one needs to highlight groups memberships, combat outside threats, and reinforce strict moral boundaries and rules (Nail et al., 2009; Wright & Baril, 2011).

Harm and justice might be composed of moral issues and values that transcend time and space. Research on the nature and content of moral foundations might corroborate that fact. While all individualizing values share a strong orientation towards universal issues relevant in most times and places (Obeid et al., 2017), binding pillars emphasize group memberships and are thus more susceptible to environmental factors (Yudkin et al., 2011). Hence, individualizing moral foundations could be considered as moral sentiments applicable across different periods and contexts, while their binding counterparts are more peripheral – they become influential in specific circumstances (Napier & Luguri, 2012).

It seems that an orientation towards future consequences invites a greater reliance on issues that encompass individualizing moral foundations. People might be more willing to consider and act for others' needs and rights when they become aware that acting otherwise might negatively affect themselves in the future. One could suggest that being able to think ahead fosters an orientation towards those moral issues that will still be applicable in the times that will be. Indeed, individualizing moral foundations might become more relevant when individuals become aware of their moral responsibility for the suffering (Süssenbach et al., 2019). In other words, it seems that broad and thorough thinking implies greater reliance on individualizing moral foundations. It is possible to express individualizing MFs concerns as a specific way of future-oriented thinking: avoiding doing harm and being unfair decreases the probability that we will regret our choices later on. Similarly, by inviting the individual to experience and feel for the future self, future self-continuity might shift towards moral issues that will eclipse temporal constraints (i.e., remain applicable in the future) by highlighting the worth of pursuing moral traits and values.

1.1.2.2. How does future self-similarity influence ethical decision-making?

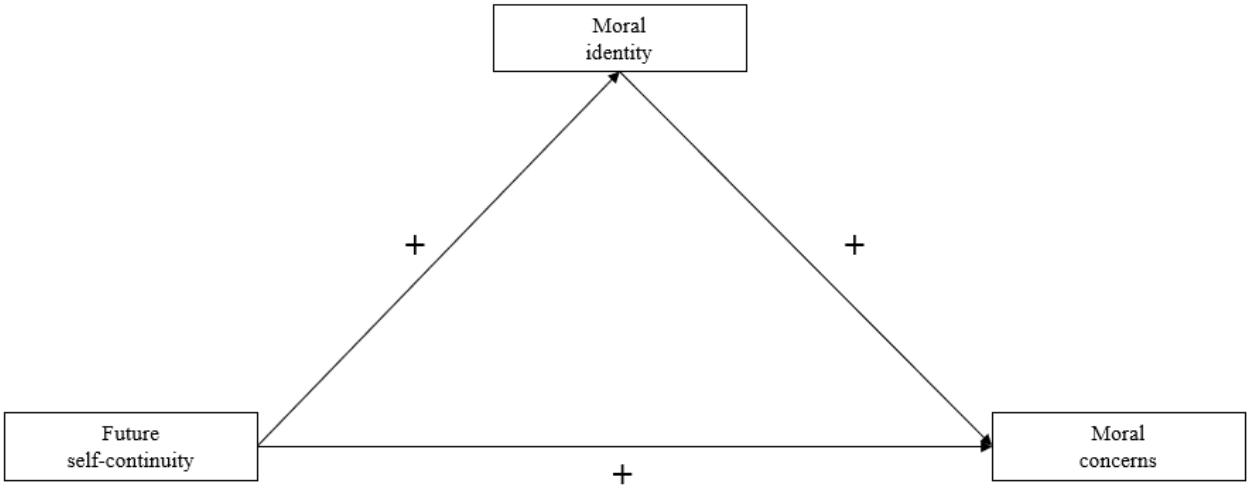
One hypothesis suggests that the relationship between future self-continuity and self-concept maintenance motivates ethical choices (Lowenstein, 1996; Parfit, 1984). According to the Planner-doer theory of self-control (Thaler & Shefrin, 1981), two aspects of the self conflict when making a decision. The myopic doer prefers to act in ways that provide immediate benefits, while the far-sighted planner aims to behave responsibly. The planner takes charge in decision-making when one shows genuine concern about their future well-being. When the planner overrides the doer, individuals become more considerate of their future well-being (Hoch & Lowenstein, 1991) and motivated to maintain a positive self-concept (Mazar et al., 2008). Dal Bó and Terviö (2013) extend this model to the moral domain. The authors suggest that people are faced with random temptations in everyday life

(e.g., whether to accept or not to accept a bribe). When deciding whether to resist those temptations, a planner-doer conflict manifests. According to their Planner-doer model of moral standards, self-control is partially determined by the decision-maker's willingness to maintain a moral self. The planner will override the doer with greater ease if the conceptions of one's moral self are perceived as good. Temptation resistance can be considered a strategy to maintain a positive self-image.

The model implies two ways in which future self-similarity might be beneficial in increasing moral concerns. First, it might increase reliance on moral norms and values for people that feel good about themselves now. Specifically, self-esteem, the confidence in one's worth (James, 1892) might moderate the positive effect of future self-similarity on moral concerns. More central to our current work, future self-continuity might foster ethical considerations by making the importance of self-traits related to morality more salient. Therefore, people might be more sensitive to moral issues because they want to maintain a positive moral identity. Figure 2 shows this theoretical perspective.

Figure 2.

A Theoretical Mediation Model of how Future Self-Continuity Might Affect Moral Concerns Through Moral Identity



Note. The "+" sign denotes an expected positive effect.

1.1.2.2.1. The Mediating Role of Moral Identity

Aside from being a strategy to maintain an already positive current self, future self-continuity might also increase the importance of staying moral. Indeed, striving to remain a good person might be one of the strongest self-consistency motivations. Research has consistently shown that moral traits are perceived as central components of one's identity (Aquino & Reed, 2002; Strohminger & Nichols, 2014; Molouki & Bartels, 2017). Moral identity, a self-schema related to how individuals evaluate themselves on a set of ethical traits (Aquino & Reed, 2002; Aquino et al., 2009; Blasi, 1983; Hardy & Carlo, 2011), can explain how and when individuals are motivated to perceive self-consistency over time. The Moral identity theory (Blasi, 1983) postulates that individuals with a strong moral identity are encouraged to act consistently with their moral values to avoid a negative sensation of cognitive dissonance stemming from inconsistent behavior. Here, the idea is that people with strong ties to their moral values behave morally due to an underlying self-consistency motive. A robust link exists between moral identity centrality and moral deliberations (Aquino & Reed, 2002; Aquino et al., 2009; Perugini & Leone, 2009; Hertz & Krettenauer, 2016). It seems that moral identity has a strong motivational effect when behavior is related to the rights and suffering of others. A strong orientation

towards moral self-traits successfully increased concerns for out-group members (Reed & Aquino, 2003), commitment to prosocial causes (Winterich et al., 2013), and ethical behavior support (Aquino et al., 2009; He et al., 2014).

While moral identity seems to represent a relatively stable personality trait (see Boegershausen et al., 2015), different situational factors can make moral characteristics more central to the self (McAdams, 2016). For example, exposure to moral issues (Aquino et al., 2009), observation of third parties performing moral tasks (Aquino et al., 2011), or priming of subtle contextual cues (Leavitt et al., 2015) successfully increased moral identity importance. In the same vein, future self-continuity might make moral identity more accessible. Moral traits seem to be crucial in perceiving the self as an unchanging entity across time. Strohminger and Nichols (2014) conducted experiments to understand how moral parts of the identity contribute to the general understanding of who we are. They showed that when participants needed to rate identity continuity of a fictional person, they attributed the greatest level of identity discontinuity when they read about changes occurring in the moral domain as opposed to other self domains. These results were consistent when considering unwilling (brain transplant following an injury, Study 1) and intentional changes (taking a personality-altering pill, Study 2) as well as fictional reincarnation scenarios (Study 3). Furthermore, following a resurrection (Study 4) and maturing into late adulthood (aging from 25 to 65 years, Study 5), participants believed in the greater consistency of moral traits than other personality parts. While this set of studies was focused on identity continuity impressions of others, Molouki and Bartels (2017, Studies 1-2) were interested in the relevance of moral, personality traits, preferences, experiences, and memories to perceiving self-continuity. They asked participants to read a list of characteristics and rate if they would stay the same person if that trait changed, improved, or worsened. Participants reported the highest rates of self-continuity disruptions regarding changes in moral qualities.

It seems that reputational concerns might elicit sensitivity to issues related to individualizing moral foundations. For example, Piazza and Bering (2008) were interested in whether concerns about reputation instill greater concerns about others' well-being. They asked their participants to play a dictator game to measure participants' prosocial behavior while manipulating reputational concerns via the threat of gossip by a third party. Participants with reputational concerns activated were more likely to behave prosocially in the dictator game, but only when they knew the third party could identify them. Similarly, reputational concerns might also elicit considerations about fairness and reciprocal altruism (Silver & Shaw, 2018).

Similarly, high future self-continuity might facilitate moral considerations of individuals already possessing positive self-evaluations. Unethical behavior might elicit great damage to the future self and thus disrupt the feeling of continuity. If individuals believe that changes in their future reputation might negatively affect their already developed positive self-attitudes (Piazza & Bering, 2008), they might wish to avoid these feelings in any way possible. The solution for them might be simple: resist temptations not to leave the future self a negative (moral) identity. Specifically, moral identity centrality might explain why individuals concerned with their future self might show greater consideration of ethical issues.

1.1.2.2.2. The Mediating Role of Moral Identity

While studies on future self-similarity and morality suggest that self-projections in the future might be beneficial in increasing moral concerns, they are still plagued with issues present in traditional psychological research. First, they relied only on self-reports when measuring study-relevant constructs. Second, they could not study the temporal fluctuations in the hypothesized effects due to their cross-sectional nature. Third, previous research used behavioral proxies or measured MFs

directly. Therefore, they could not generalize their conclusions to everyday behavior motivated by or at least related to moral foundations.

To address these points, one could use experience sampling methods (ESM) to study the relationship between future self-relatedness, moral foundations, and moral behavior. ESM help to go beyond conventional social research by collecting data in natural environments and in real-time using intensive longitudinal designs (O'Connor et al., 2009; Csikszentmihalyi & Larson, 1987; Kuppens & Myin-Germeys, 2021). From a methodological standpoint, ESM improves the ecological validity of research by allowing data collection on heterogeneous samples of events (Eisele et al., 2021; Kuppens & Myin-Germeys, 2021; Wrzus & Neubauer, 2022). Furthermore, ESM reduces retrospective memory biases present in self-report measures because participants report their affects, intuitions, judgments, and behaviors at a specific moment and in real-life settings (Lucas et al., 2020; Robinson & Clore, 2002; Schwarz, 2012). From a statistical point of view, ESM allows researchers to distinguish between-person and within-person effects (Wang & Maxwell, 2015). Between-person analyses are relevant to understand how a variable affects another in a specific sample or population of participants. Between-person analyses thus study the variability among individuals around *group-level means*. However, ESM strategies enable us also to study the same relationship on a within-participants level (Curran & Bauer, 2011). By repeatedly collecting data from the same participants, it is possible to study variable relations on the level of the individual participant (within-person effects; Curran et al., 2012; Wang & Maxwell, 2015) and temporal fluctuations concerning the magnitude and directions of the relationship of interest (within-person dynamics; Hamaker, 2012; Molenaar, 2004; Molenaar et al., 2009). Therefore, when analyzing within-participant data, one is concerned about the variability around the means of individuals (Curran & Bauer, 2011). This distinction is particularly relevant since recent research points out that within- and between-participants effects might sometimes be significantly different in magnitude and direction (Curran & Bauer, 2011; Hoffman & Stawski, 2009).

Recent research used ESM to study morality in everyday life. For example, Hoffman and colleagues (2014) studied moral experiences in naturalistic settings. The results of their study indicate that approximately 29% of events their participants reported can be categorized as morally relevant. Furthermore, a significant number of these events can be attributed to events where the participant was the moral actor. Finally, it seems that the participants were more likely to report moral acts they committed than moral events they heard about. The opposite pattern was identified for immoral acts: participants learned about more morally questionable acts than reported committing them. It was also found that the MFT framework might be useful in understanding moral behavior. In other words, reported moral behavior content can be classified based on five dimensions composing individualizing and binding moral foundations. Furthermore, the basic need to stay (and become) moral is a strong predictor of everyday moral behavior, even when controlling for other psychological needs (Prentice et al., 2020). Similarly, Baumeister and colleagues (2019) used ESM to study self-control in naturalistic settings. Their work indicates that both between- and within-participants state self-control levels account for lower ego-depleting actions (e.g., pushing oneself to engage in unwanted tasks) and feelings (e.g., low reported mental energy), implying that self-control might be a relevant factor in making individuals more resilient to temptations.

The mentioned studies suggest that individuals' life is filled with different moral experiences, which can be predicted by temporal fluctuations of different affective and motivational factors that make people more or less sensitive to everyday moral content. Specifically, applying ESM to study moral behavior could be a promising pathway in identifying variables that explain why *some* people are more concerned about their morality than others (between-person effects) and situations in which *a person* becomes more moral than others (within-person effects). We aim to build upon studies about future self-relatedness and morality and adopt the ESM strategy to study the effect of future self-relatedness on moral foundations on three levels: trait, between-, and within-participants. Additionally,

we aim to explore the role of future self-relatedness in predicting the occurrence of everyday moral actions. Although we are aware that one does not need to be an agent to experience a moral event (Hoffman et al., 2014), here, due to our hypotheses, we are focusing explicitly on personally performed moral behavior. Theoretically, due to the need to maintain a positive (and moral) self (Hershfield et al., 2012), future self-relatedness should motivate individuals to behave morally, but should not increase the tendency to experience and notice moral behavior per se.

1.2. Collective Future Continuity

The Social identity theory (Tajfel, 1978; Tajfel & Turner, 1979, 2004) posits that the groups we belong to (i.e., *ingroups*) represent a great source of pride and self-esteem. One way to enhance our self-esteem is to strongly identify with the ingroup's achievements, positive aspects, and characteristics. In that way, our self-esteem becomes strongly tied to our group memberships, resulting in strong motivations to protect the ingroup (Tajfel & Turner, 1979; Tajfel et al., 1971). Therefore, the Social identity theory posits that group memberships define our identity acting as a part of our extended self. People seem to experience groups they identify with as a coherent whole (Campbell, 1958; Sani et al., 2005). Reicher and Hopkins (2001) state that people perceive such groups as having continuity or being a “body that transcends us not only in space but also, and perhaps more importantly, in time” (Sani et al., 2007, p. 1118). Consequently, self-continuity might only be one component of identity continuity that affects present judgments and behavior. One can also be motivated to act (or a least intend to act) by believing that the ingroup remains coherent through time by maintaining and transmitting its values, traditions, norms, and culture.

Sani and colleagues (2007) define collective continuity as the belief in a strong link between the group’s past, present, and future. The authors understood collective continuity as a two-dimensional construct. First, feelings of group continuity can be developed by transgenerationally transmitting core

group values, traditions, and norms through time. This dimension stems from an essentialist representation of group continuity and is called *cultural continuity.* Second, individuals can also perceive a coherent link between historical events that define the group. Therefore, *historical continuity* represents the narrative representation of collective continuity. Both aspects of collective continuity are characteristic of an ingroup's past-present link, and some authors appropriately named Sani and colleagues construct as *past* collective continuity (PCC, Jetten & Wohl, 2012; Maoulida et al., 2021; Selvanathan et al., 2022; Smeekes & Verkuyten, 2014a).

It seems that it is worthwhile for individuals to perceive past continuity for ingroups they strongly identify with. High collective continuity was associated with collective and personal self-esteem (Sani et al., 2007; Smeekes & Verkuyten, 2014a, 2014b). Additionally, it seems that greater levels of PCC might contribute to better social well-being (Sani et al., 2008) and physical health (Newell et al., 2020). While PCC positively affects individual well-being, it draws people away from different others. Previous studies on past collective continuity highlighted that the valence of continuity has an important role when understanding its effect on present behavior. In a study by Roth and colleagues (2017), German participants who were induced to perceive negative cultural continuity reported higher levels of social identity threat than participants who were prompted by a positive continuous past. On the other hand, participants who experienced discontinuity from a positive past showed greater concerns for their social identity than their counterparts primed with negative collective discontinuity. This pattern of results is similar when considering prosocial intentions directed towards ingroup/outgroup members. Maoluida and colleagues (2021) showed that continuity with a positive collective past elevated the intentions of French participants to participate in collective actions to protect their social identity (Experiment 1), while negative attitudes towards the reception of outgroup members were increased by experiencing positive collective continuity (Experiment 2) and discontinuity with a negative past event (Experiment 3).

This research line explored PCC's benefits, drawbacks, and effects on social identity and intergroup relations. However, as it is on the self-level, it is also possible that people might deliberate about the future of their ingroups. It might be worthwhile to argue that individuals might experience the future continuity of their ingroup the same way they experience future self-continuity.

Research has consistently shown that individuals can think about the future of groups regardless of their size. In other words, just as a person might deliberate about the state of their band of friends or family in the future, they can think about national, ethnic, and religious groups similarly. By following the collective memory (Assman, 1995; Halbwachs 1925/1992; Wessel & Moulds, 2008) approach in studying how groups construct their historical and narrative past, Szpunar and Szpunar (2016) introduced the concept of *collective future thought* (CFT) as an act of imagining a future event that is going to happen to a certain group. The authors argue that both individuals and groups can engage in collective future thought; the key is that one focuses on how that effect might affect the group. To be more specific, CFT is used to describe an attempt to envision how the present event might influence the group's future. Shrikanth and colleagues (2018) provided empirical evidence of CFT by showing that thinking about the personal (episodic) and the collective future are two distinct processes of mental time travel. They have demonstrated in six experiments that people express a positivity bias when thinking about their personal future, while higher levels of worry are generated when thinking of society. Yamashiro and Roediger III (2019) were interested in comparing the perceived valence of CFT to collective memory. Similar to the work by Shrikanth and colleagues (2018), the authors found that past memories are perceived as more optimistic, while a strong negativity bias was found for CFT. The studies imply that people might perceive their group's future as more negative than its past while being more optimistic about the time to come from a personal perspective.

CFT proclaims that thinking about the present influences how we might imagine the group's future. However, envisioning a collective future might also affect present behavior and judgments. Inside their Collective Future Framework (CFF), Bain and colleagues (2013) propose that thinking about changes in different societal contexts results in the formation of beliefs about how much the society and its people might change. How these beliefs affect present behavior and judgments is related to whether people desire a specific social change. Bain and his colleagues have tested these hypotheses in 8 studies containing different types of social change 50 years in the future: mitigation of climate change (Study 1), relaxation of abortion laws (Study 2), legalization of marijuana (Study 3), and changes in religious demography (Studies 4-8). Their participants needed to imagine said future societies and answer questions related to those scenarios. First, they rated how much each future would differ from the present on a set of items measuring social dysfunction (e.g., disease, poverty) and social development (e.g., technological innovation, scientific progress). Second, they had to rate the characteristics of people living in the future on a set of traits, including warmth (e.g., caring), competence (e.g., capable), and morality (e.g., honest). Third, they reported how much they would endorse the social change described in each study. It was found that individuals are more likely to support societal changes when they perceive it would produce a less dysfunctional society with more warm and moral people. Judge and Wilson (2015) came to similar conclusions when asking participants to imagine a vegetarian and vegan future utopia.

CFT and CFF approach the idea of thinking about the group’s future from two different angles. CFT assumes that individuals negatively rate future ingroup changes (Shirkhanth et al., 2018; Yamashiro and Roediger III, 2019), which is in line with work highlighting that perceived collective discontinuity can increase anxiety about the future and other negative emotions (Roth et al., 2018; Sani et al., 2008; Smeekes & Verkuyten, 2014a; Wohl et al., 2010). The idea of CFF is that people welcome some group-level changes depending on the valence of their consequences instilled upon the future

society. However, both models leave the question of perceiving the ingroups as unchanging entities in the future wide open. Previous work in cognitive psychology revealed that people could be prompted to assume a similarity or dissimilarity focus when comparing two objects (Mussweiler, 2003; Mussweiler & Epstude, 2009). Furthermore, being asked to find differences between two target stimuli requires the generation of similarities between those stimuli (Posten & Mussweiler, 2017; Todd et al., 2011). Understanding how two things are similar is a prerequisite for understanding how they differ. In that regard, individuals might also be able to identify and think about different characteristics, values, and venues in which their group might not experience or at least experience fewer changes in the future *before* thinking about present-future discrepancies.

As stated previously, experiencing a coherent link in the ingroup's cultural and historical timeline is crucial to feeling connected to its future. Then, one can introduce Collective future continuity (CFC) as the belief that different important events starting from the ingroup’s present and ending at some future point form a causal and united temporal essence. Individuals who perceive CFC should perceive that their ingroup remains coherent over time. While some changes might occur on the individual (e.g., changes in the ingroup structure caused by the flow of time) or global level (e.g., environmental changes, technological advances, macroeconomic fluctuations), one can expect that the culture, fundamental beliefs, traditions, values, and symbols of the ingroup will remain the same in the future.

An Italian with high CFC might believe that no matter how the world changes in the future, Italians will still use the Italian language to communicate, celebrate important national holidays such as Liberation Day and Republic Day, will still be predominately Christian and that the appearance of the Italian flag will be the same. Another, more profound example can be found in cultures that practice a secondary burial. In the Malagasy culture, the tradition known as *Famadihana* includes bringing the

deceased ancestors' bodies from their burial sites after their decomposition and performing ceremonies to enable their passage to the society of the dead. The custom carries two important illustrations of CFC. The first one relates to the length of the tradition itself. Usually, Famadihana is held once every seven years. Because the funeral is not complete by the first burial, the Malagasy need to believe that their culture and religious customs will not change in the future. The second example of CFC found in Famadihana is the meaning of the tradition itself. The second burial is understood as a reintroduction to the world of the dead after one's body becomes pure and reduced to skeletal remains (Bloch, 1971). Only then can the deceased fully interact with their ancestors. Graeber (1995) notes that the belief of the continuity of familial ties after death takes center stage in these traditions. The Malagasy believe that one will be close to their family even if time passes and their bodies change.

In these examples, two important aspects of CFC are visible: 1) orientation towards the group's future and 2) a strong feeling that the group's characteristics will not change over time. The last important aspect of CFC that one needs to consider is its composition.

1.2.1. The Structure of Collective Future Continuity

We propose that individuals think about the future of their ingroups similarly as they think about their future selves. As mentioned previously, the Social identity theory (Tajfel, 1978; Tajfel & Turner, 1979, 2004) argues that our feelings of belonging to ingroup strongly shapes the way we see ourselves. When individuals strongly identify with an object, they form an *extended* self (Aron et al., 2004; Belk, 1988; Tian & Belk, 2005; Clayton et al., 2015). As with any other environmental construct, people can also include ingroups in their self-concept (Aron et al., 2004; Tropp & Wright, 2001). Smith and Henry (1996) adapted Aron and colleagues' (1992) match-mismatch response time paradigm, where participants are asked to perform a series of me/not me decisions regarding a list of descriptive traits. In this experiment, participants described themselves, their ingroup, and their outgroup on a list

of 90 traits in a pen and pencil task. Then, they underwent a computerized me/not me task using the same list of traits. The main hypothesis of the paradigm is that the response latencies for traits where participants match their ingroup should be faster than those where a mismatch is clear. Indeed, participants made more errors and responded slower to traits they believed to mismatch their ingroup than match-traits. The same effect was not present in the case of outgroup trait ratings.

Furthermore, it seems that the extended self might work as a proxy for ingroup identification. Tropp and Wright (2001, Study 1) showed that the match-mismatch effect is stronger for individuals that identify with their ingroup more. These studies highlight that the ingroups' characteristics are incorporated into the self-concept, and individuals start treating their ingroup and the self as the same entity (i.e., using the term *we*, Aron et al., 2004). The self and the group become connected on an associative level, and thinking about the self becomes similar to thinking about the ingroup (Wenzel et al., 2007). Therefore, the literature on the ingroup as an extended self indicates that the pathways in which individuals stay connected with their future self can be used to explain how they become connected to their ingroup.

Drawing from the previously described philosophical works by Parfit (1971, 1981) and the Future self-continuity model (Hershfield, 2011), we view the CFC as a three-component construct. The *Similarity* component relates to the degree to which one feels that their ingroup will stay similar in the future compared to the present. The *Vividness* of the future collective refers to the capability to imagine the future of one's ingroup vividly. Finally, the *Positivity* towards the future collective can be understood as the tendency to positively evaluate the ingroup's future. When one feels that their ingroup will not change much over time, can imagine it in a future state, and shares a positive affect towards that state, they should believe that the future of that group will be interconnected and closely related.

Several empirical works about comparative and future thinking support this hypothesis. First, a focus on similarities during comparative processes is crucial for a dissimilarity focus (Posten & Mussweiler, 2017; Todd et al., 2011) and also has a more substantial effect on the evaluations and behavior towards compared stimuli (Corcoran et al., 2011). Furthermore, individuals are able to compare groups on how similar they are to themselves (Allen & Wilder, 1979; Chen & Kendrick, 2002; Lemay & Ryan, 2021) and other objects (e.g., other groups; Mullen & Hu, 1989; Roccas & Schwartz, 1993). In other words, people can be asked to compare the present and future of their ingroup based on their expected shared similarities.

Second, studies regarding episodic future thinking highlighted that people possess the capability to vividly imagine the future (e.g., Daniel et al., 2015; Dassen et al., 2016; Gaesser et al., 2018; Monroe et al., 2017; Vonasch & Sjåstad, 2021; Wu et al., 2017). Furthermore, more vivid future thinking can also be induced by using novel technology such as virtual reality (Hershfield et al., 2011; Van Gelder et al., 2013) and digital imaging (Van Gelder et al., 2015). Additionally, people can vividly imagine different characteristics of their ingroup such as member faces (Ratner et al., 2014), relationships with other groups (i.e., imagined intergroup contact; Crisp & Turner, 2009; Crisp et al., 2010), and relevant cultural customs (Bruneau et al., 2012; Lee, 2017).

Third, people can evaluate the valence of future events (Hepburn et al., 2006) and these evaluations are mostly positive (Newby-Clark & Ross, 2003; Ross & Newby-Clark, 1998). According to the Social identity theory (Tajfel, 1978; Tajfel & Turner, 1979, 2004), group memberships also have significant effects on how people evaluate their ingroup and other groups. For example, people seem to like groups based on the degree of perceived connectedness (Clement & Krueger, 1998) or empathy (Pittinsky et al., 2011) for the group. Therefore, it is possible identify three methods to manipulate the perceived connectedness to the future of the ingroup. One might increase CFC by asking people to

think about how their group will not change in the future, by asking them to imagine the future of the ingroup more vividly, and by inducing more positive emotions towards the ingroup's future.

In this section, we have provided our proposal for the structure of CFC and possible ways to manipulate it. However, we have still not offered an answer to the potential implications of CFC on the moral sphere. More specifically, it is reasonable to ask how CFC affects moral judgments and behavior in the present.

1.2.2. Collective Future Continuity and Morality

Because people seek to experience psychological continuity, its disruption either on the individual or group level is aversive (Kung et al., 2016), which motivates individuals to avoid that displeasing sensation by maintaining continuity (Mazar et al., 2008). As with the personal self, individuals are also motivated to maintain their positive social selves (Cinnirella, 1998; Marques & Paez, 1994; Schmitt et al., 2000; Tajfel & Turner, 1986). One possibility to maintain a positive social identity is to engage in pro-ingroup behavior to sustain or elevate its positive status (Cialdini & Richardson, 1980). Similarly, a strong concern for the future of the ingroup might highlight intergroup relations as a venue to manage a positive outlook over time. In the case of high CFC, individuals should perceive several characteristics of the ingroup relevant to their social identity and should remain stable in the future. Simply put, one might be motivated to act today to maintain their positive social identity in the future. It is thus possible that CFC affects group-level morality via two pathways: a) by increasing the confidence that ingroup members can behave cooperatively and b) by decreasing the perceived ingroup's vitality threat.

1.2.2.1 The Mediating Role of Collective Prosocial Efficacy

Collective efficacy beliefs reflect individuals' expectations that their group can act coordinatively on a shared belief (Bandura, 1978, 2000). They differ from self-efficacy beliefs because

they require the individual to make appraisals of other group members individually, their standing within the group, and the group as a functioning entity (Durham et al., 1997; Earley, 1994; Hodges & Carron, 1992; Prussia & Kinicki, 1996, Short et al., 2009). Believing in the group's ability to achieve a common goal is linked to a greater willingness to participate in goal-related collective actions (Fernandez-Ballesteros et al., 2002; Tabernero et al., 2007). More importantly, collective efficacy beliefs can also affect how individuals perceive other ingroup members. For example, when team-sport athletes believe in cooperation within their group, they perceive other members to be able to work in team-related settings (Paskevich et al., 1999). Similarly, high collective efficacy beliefs in education are strongly linked with greater trust in teachers to carry out educational work (Hattie, 2016). In other words, collective efficacy might develop faith in individual group members to do a good job.

One specific type of collective prosocial belief is related to helping behavior. Collective prosocial efficacy describes the belief that the group can behave prosocially (Cuadrado & Tabernero, 2015) and possesses the resources to do so. Previous research found a positive relationship between collective prosocial efficacy beliefs and prosociality on individual and group levels. Cuadrado and Tabernero (2015) showed that individuals in a positive affective state were more willing to behave cooperatively in a dilemma game when having strong collective prosocial efficacy beliefs. Extending this work, Cuadrado and colleagues (2016) asked participants to play a public goods (Study 1) and social exclusion game (Study 2) in small teams while assessing their collective prosocial efficacy and teammate trust levels, among other variables. Both studies revealed that collective prosocial efficacy consistently increased prosocial behavior by fostering the level of trust that other teammates will also choose cooperation.

Connecting the work on collective prosocial efficacy with CFC, it might be possible that strong beliefs in the ingroup's unchanging nature might positively affect intergroup relations by increasing the

confidence that in-group members can behave prosocially. As a case in point, research in the field of meta-stereotyping has suggested that outgroup prosocial behavior might present a viable strategy to reduce negative stereotypes about the ingroup (Hopkins et al., 2007). Furthermore, outgroup helping can also be used to boost the ingroup's reputation and social standing (Van Leeuwen & Täuber, 2012). Similarly, negative consequences of outgroup suffering for the ingroup increase ingroup helping (Reicher et al., 2006; Van Leeuwen, 2007). Finally, when individuals believe their ingroup is positively evaluated, they might be more open to outgroup members (Charnysh et al., 2015; Van Leeuwen et al., 2013). These studies seem to indicate that when the image of the outgroup is salient, outgroup helping can be seen as a venue to foster the ingroup's image. In other words, individuals might expect their ingroup to be more cooperative in conditions where the opposite might damage favorable ingroup views. Likewise, it seems likely that people might also want to positively evaluate their ingroup in the future. CFC might promote positive intergroup relations and cooperation by increasing the confidence that in-group members can behave prosocially. Present prosocial actions might be seen as a way to maintain the evaluation of the in-group as moral and inherently good in future times.

For example, suppose Italians believe in the future continuity of their culture. In that case, they should feel that other Italians could behave in ways to maintain a positive image of the ingroup (e.g., volunteering for organizations that support other groups to maintain a view of Italians as a benevolent group). By believing that other Italians can cooperate with others, they would recognize outgroup helping as a possible way to highlight the cooperative nature of Italians. In the same example, an Italian might be more relaxed towards the outgroup because they want to maintain the picture of Italians as an amicable, warm, and welcoming national group. In that regard, collective prosocial efficacy might be seen as an underlying mechanism that directs the ingroup towards behavior that protects group identity consistency.

1.2.2.2. The Mediating Role of Collective Angst

Individuals strongly connected to their groups expect them to be eternal (Reicher & Hopkins, 2001; Sani et al., 2007), as such groups provide individuals with immortality beliefs even if their lives cease to exist (Becker, 1973; Solomon et al., 1991). Ensuring that the ingroup will not disappear, one receives guarantees that their self will continue to live in the values and traditions that will persevere through time (Sani et al., 2009). This feeling of group continuity increases positive emotions toward the self (Sani et al., 2007, 2009) and the ingroup (Sani et al., 2007; Wohl et al., 2010, 2011). However, people can also be overwhelmed with expectations that these ties might not be so unbreakable. This negative emotion, referred to in the literature as *collective angst*, occurs when individuals are pessimistic about the ingroup's future vitality (Wohl & Branscombe, 2008). Perceiving that a present situation could harm the in-groups' future dynamism is related to negative attitudes towards out-groups (Tabri et al., 2018; Jetten & Wohl, 2012; Wohl et al., 2010). Furthermore, high levels of collective angst might also motivate in-group strengthening behaviors (Bai & Federico, 2020). On the other hand, perceptions of low in-group threat are related to lower levels of prejudice (Mancini et al., 2020) and increased intentions to behave prosocially towards the out-group (Falomir-Pichastor et al., 2004; Spears et al., 1997).

One answer to why collective angst seems to impede intergroup relations are perceived social identity threats underneath it. For example, intergroup threat occurs when the ingroup perceives that the outgroup might harm or damage its vitality (Stephan & Stephan, 2000). Both concerns about physical harm and loss of realistic resources (*realistic threats*) and the loss of integrity, respect, and status (*symbolic threat*) elicit outgroup prejudice and have a destructive effect on intergroup relations (Riek et al., 2006; Stephan et al., 2008, 2009).Two types of social identity threats might trigger collective angst concerns. First, individuals might start believing that the characteristics that make their ingroup unique are withering. *Distinctiveness threat* refers to a negative reaction elicited by observing that the ingroup

becomes similar to other groups (Roccas & Schwartz, 1993). Indeed, group mergers caused by globalization effects (Adams, 2003; Lalonde, 2002; Wohl et al., 2011) or gradual dispersion of intergroup members (Berry, 2003) could contribute to a negative feeling that the group does not make it in the future (Wohl et al., 2012). Second, the fear that the ingroup might become extinct could also contribute to a rise in collective angst levels. Individuals experience *extinction threats* when they experience collective victimization (Barkan, 2000) or feel strongly connected to the victims (Wohl & Van Bavel, 2011). For example, reminding Americans of collective victimization towards them (e.g., September 11th attacks) triggers greater levels of collective angst than thinking about the victimization of other groups (Wohl & Branscombe, 2009). Furthermore, collective angst can occur even in situations when the individual thinks that group extinction is a possibility. Wohl and colleagues (2010) demonstrated that asking participants to imagine how a natural disaster (tornado damage, Study 1) might destroy their ingroup was enough to trigger collective angst.

Paradoxically, a strong feeling of past collective continuity is related to greater fears about the ingroup's future. As mentioned previously, a positively perceived continuous past is related to more collective action towards the in-group and lower levels of acceptance of the out-group (Brewer & Pierce, 2005; Malouida et al., 2017; Smeekes & Verkuyten, 2014b; Roth et al., 2018; Wohl et al., 2010). One possible explanation for these findings is that outgroup individuals might be perceived as a threat to the perception of a positive temporal connectedness of the ingroup (Sani et al., 2008; Smeekes & Verkuyten, 2014a). Indeed, glorifying the ingroup's national history is related to a bleak view of the ingroup's future and readiness to confront enemy groups (Mols & Jetten, 2014). Additionally, narratives regarding historical continuity become more accessible when the individual perceives a social identity threat (Smeekes et al., 2017). For example, promoting collective nostalgia, an emotion of longing for the ingroup's past (Smeekes et al., 2015; Wildschut et al., 2014), increased positive ingroup attitudes and behaviors (Cheung et al., 2017; Wildschut et al., 2014) while fostering prejudice

against outgroups in contexts such as national identity and immigration issues (Smeekes et al., 2015, 2018). Individuals who feel a strong positive connection between the past and present of the in-group might believe that outside threats might disrupt the ingroup continuity by either a) changing it significantly or b) making it vulnerable for extinction. In other words, individuals are inclined to protect collective continuity in fear that the ingroup will cease to be.

Thinking about the continued future of the in-group might attenuate concerns regarding the ingroup's future vitality. One could assume that CFC might decrease negative behavior towards the outgroup by increasing confidence that outside influences are not a threat to the temporal continuity of the ingroup. Specifically, this should be possible because individuals believe that important cultural norms, traditions, and behaviors will persist in the future despite global and environmental changes. This belief in the unchanging nature of the ingroup might decrease fears about losing the ingroup and thus make individuals more relaxed towards others different from them.

1.3. Overview of Present Research

This thesis concerns the effects of perceived future temporal continuity on present moral judgments and decision-making. Our approach is to study this relationship on two levels: the individual and the collective level. In that regard, Chapter 2 contains studies investigating the effect of future self-continuity on moral foundations concerns. Study 1 presents initial correlational results of the relation between future self-continuity and moral foundations. In Study 2, we identified a novel experimental manipulation of future self-continuity. We used this manipulation in Study 3 to find causal evidence of the effect of future self-continuity on moral foundations. Study 4 explored the mediational role of moral identity for the experimental effect identified in Study 3. The main aim of Study 5 was to disentangle the effect of a future self from a present-self focus. Study 6 builds upon the findings identified in Study 5 by employing a factorial experiment to investigate the interplay between self-

salience and temporal framing in affecting future self-continuity and consequently individualizing moral foundations. In Studies 5 and 6, we have also aimed to replicate the mediation effects identified in Study 4. In Study 7, our aim was to study the effect of future self-continuity on moral judgements and behavior in real-life setting. To accomplish this goal, we employed an experience sampling research design.

Chapter 3 contains the results of studies conducted to explore the effect of collective future continuity on group-level morality, including prosocial behavior and outgroup prejudice. In Study 8, we aimed to obtain evidence of the proposed theoretical structure of CFC. Furthermore, we have examined the interplay between CFC, prosocial collective efficacy, and beliefs about prosocial behavior towards the out-group. In Study 9, we have focused on the relationship between CFC, collective angst, and prosocial normative expectations directed toward both in-group and out-group members.

Chapter 2: The Effect of Future Self-Continuity on Moral Foundations

2.1. Introduction

In general, future self-continuity seems to combat impulsivity, irresponsibility, and impatience (Bartels & Rips, 2010; Hershfield, 2011). Specifically, future self-continuity was shown to decrease temporal discounting (Ersner-Hershfield, Garton, et al., 2009; Ersner-Hershfield, Wimmer, et al., 2009; Bartels & Rips, 2010), which is a relevant indicator of shortsightedness. Furthermore, all three future self-continuity components more or less foster responsible actions such as savings (Hershfield et al., 2011) and health behaviors (Rutchick et al., 2018). However, it seems that the similarity component is more relevant for actions related to moral thinking, like ethical behavior (Hershfield et al., 2012) and delinquency (Van Gelder et al., 2013, 2015). In that regard, future self-similarity should positively affect moral intuitions underlying these behaviors. Specifically, we expect future self-similarity to increase moral foundations concerns (*Hypothesis 1*).

However, the effect of future self-similarity should be stronger for one group of foundations compared to the other. Because individualizing moral foundations are considered more temporally stable (Napier & Luguri, 2012; Yilmaz & Saribay, 2017), we expect that perceiving similarities with the future self will affect the consideration of moral issues expected to stay relevant in different contexts and times. Our hypothesis is supported by previous studies highlighting the stability of individualizing moral foundations (Napier & Luguri, 2012; Yilmaz & Saribay, 2017) and the importance of future self-continuity for decreasing moral transgressions towards others (Hershfield et al., 2012; Molouki & Bartels, 2017). Specifically, future self-similarity should invoke a greater reliance on the temporally consistent individualizing moral foundations than the more contextually salient binding pillars (*Hypothesis 2*).

Also, we aim to test hypotheses that might help to explain further the complex relationship between future self-continuity and moral foundations.

Based on previous work highlighting the positive relationship between self-consistency motivation and moral identity (Molouki & Bartels, 2017; Strohminger & Nichols, 2014), we expect future self-similarity to increase the perceived level of importance of moral identity. Additionally, higher reliance on moral traits and values should increase the concerns about the morality of current behavior (Aquino & Reed, 2002; Hertz & Krettenauer, 2016). In other words, we expect moral identity to mediate the effect of future self-similarity on moral foundations (*Hypothesis 3*). Additionally, this mediation effect should be stronger for individualizing than binding moral foundations (*Hypothesis 4*). Additionally, based on studies that identified a strong self-maintenance motive for people with positive self-views (Jing Lu & Chang, 2015; Mazar et al., 2008), we might expect social self-esteem to moderate our proposed direct effect. Specifically, we might expect that the effect of future self-similarity on moral foundations concerns should be stronger for individuals with higher levels of self-esteem (*Hypothesis 5*).

Finally, we also expected that this effect translates to the behavior levels of analysis. Therefore, in Study 7 we explored four additional hypotheses regarding the effect of future self-continuity on morality in everyday life. We expected that both within- (*Hypothesis 6a*) and between-participant (*Hypothesis 6b*) levels of future self-relatedness should affect daily fluctuations in MF concerns. However, based on the more central and invariant nature of harm and justice foundations (Napier & Luguri, 2013; Obeid et al., 2017; Süssenbach et al., 2019; Silver & Shaw, 2018), future self-relatedness should achieve a stronger effect on individualizing than binding MFs (*Hypothesis 7*). Following the same logic, we expect these effects to extend to behavioral levels of analysis. Specifically, we expect both within- (*Hypothesis 8a*) and between-participant (*Hypothesis 8b*) levels of future self-relatedness

to increase the probability of performing a moral action and that this effect should be stronger for individualizing than binding moral actions (*Hypothesis 9*).

The relationship between moral foundations and moral behaviors seems robust (e.g., Clifford et al., 2015; Franks & Scherr, 2015; Hoffman et al., 2014, 2018). Individualizing moral foundations seem to foster behavior regarding the protection of others' rights and safety (Fehr et al., 2015; Süssenbach et al., 2019), while binding moral foundations predict ingroup-related actions (Dehghani et al., 2016; Moojiman et al., 2018) In that regard, we expect the daily fluctuations in individualizing (binding) MFs concerns to mediate the direct effect of future self-similarity on individualizing (binding) moral actions (*Hypothesis 10*). Studies described in the chapter aim to test these hypotheses.

This set of studies contributes in six ways to the literature about morality and future self-continuity. First, while several relevant studies found links between past self-identification and moral concerns (Stanley & De Brigard, 2019; Stanley et al., 2017), studies that attempted to connect future self-similarity to the moral domain focused on specific moral behaviors such as cheating (Hershfield et al., 2012) and delinquency (Van Gelder et al., 2013., 2015). To our knowledge, no other study attempted to answer how different levels of future self-similarity relate to more general moral intuitions. Building on the previous work, we adopted the framework of the MFT to study how future self-relatedness affects the moral domain on the broader scope. By moving from narrow morality conceptualizations, we examined the effect of future self-similarity on basic intuitions underlying moral behavior.

Second, our work enabled us to understand whether the effect of future self-similarity also extends to moral issues about maintaining group ties. If future self-projections increase awareness about different clusters of moral virtues, future self-similarity might bring people of opposing moral values closer together. Third, previous studies were focused solely on the effect of similarity. Here, we

also measured the other two future self-continuity components to a) control for their effects and b) assess their importance for moral judgments in an exploratory fashion.

Fourth, we attempted to disentangle self from future focus effects to understand whether a self or a future-oriented manipulation is more relevant in increasing future self and moral concerns. We aimed to answer whether a self-related focus by itself is sufficient for increasing future self-identification and subsequently concerns about moral characteristics and actions. Fifth, we attempted to identify mechanisms through which future self-relatedness affects moral judgements. Specifically, we aim to build upon previous literature by studying the mediational effect of moral identity centrality. Sixth, in Study 7, we implemented experience sampling methods to examine the relationship between future self-continuity and moral foundations in real-life settings. This design allowed us to go beyond traditional self-report measures and one-shot data collection and study how daily fluctuations in future self-continuity dynamically affect reported moral foundations level. Furthermore, we collected data on everyday moral behavior and examined whether our previous findings generalize to actions related to moral foundations. Our findings thus provide insights into how future self-similarity might emphasize moral traits and values salience and thus increase present deliberations about intuitive moral virtues.

The local Ethics Committee approved the studies, and consent was obtained from all participants. The studies were conducted under the guidelines defined by the Declaration of Helsinki. Studies 3 (https://aspredicted.org/di25u.pdf), 4 (https://aspredicted.org/6KP_46J), and 5 (https://aspredicted.org/QXS_G1Y) have been preregistered via AsPredicted. The preregistrations included the study design, the planned sample size, the inclusion/exclusion criteria, and planned analyses. The data and analysis code for all studies described in this chapter is publicly available on Open Science Network (https://osf.io/3sgqt/?view_only=1601cb53aed74efca44a959135fa6e26).

2.2. Study 1: Correlational Evidence of Future Self-Continuity and Individualizing Moral Foundations Relationship

In this study, we examined whether individual differences in future self-continuity facets are related to moral foundations. A survey was conducted to assess participants' future self-continuity and individualizing/binding moral foundations. Along with social self-esteem, we measured all HEXACO personality traits to explore their relationship with our main variables in an exploratory fashion. Additionally, Study 1 allowed us to test the interplay between our main variables of interest and basic personality traits. Since personality, especially traits related to honesty and agreeableness, is related to moral thinking (Hilbig et al., 2014; Kroneisen & Heck, 2020; Međedović & Petrović, 2016) and future self-continuity (Hershfield et al., Study 4), in this study we also decided to measure the HEXACO traits (Ashton & Lee; 2009). Therefore, we were able to assess correlations between future self-continuity components, moral foundations, the HEXACO traits and their facets, and explore the moderating role of personality factors.

2.2.1. Participants

A total of 242 participants accessed the online study. To be eligible for participation, individuals needed to be fluent in Italian and 18 years old. Participants accessed an anonymous link that directed them to the online questionnaire form. We shared the survey link on internet forums and social media (Reddit and Facebook) and also used the snowball sampling procedure to find additional study participants. When careless responses were eliminated (see below), the sample consisted of 195 participants (N_{female} = 110, N_{male} = 82, N_{other} = 3). The participants' average age was 27 years (M = 26.70, SD = 11.50). A sensitivity power analysis showed that the study had a power of .80, with α = .05, to detect a relatively small correlation of r =.18

2.2.2. Materials and Procedure

After giving consent, participants filled out the Future Self Continuity Scale ([FSCS], Ersner-Hershfield, Garton, et al., 2009), the Future Self Continuity Questionnaire ([FSCQ], Sokol & Serper, 2020), the Italian adaptation of the Moral Foundations Questionnaire ([MFQ], Bobbio, Nencini & Scarrica, 2011), the Italian version of the HEXACO-PI (Ashton & Lee, 2009; Lee & Ashton, 2017), and a measure to detect careless responses in long surveys (Meade & Craig, 2012) and provided demographic information.

Future Self-Continuity Scale (FSCS). Ersner-Hershfield (2009a) modified Aron and colleagues' (1992) Inclusion of the Other in the Self Scale to measure future self-continuity. Participants are presented with seven pairs of Euler circles. One circle in the pair represents the current (left circle), while the other represents the future (right circle) self. The first pair showcases the lowest overlap between the circles. For each following pair, the overlap between the circles is increased. By choosing one of the following circle pairs, participants indicate the level of perceived similarity with their future self.

Future Self Continuity Questionnaire (FSCQ). Sokol and Serper (2019a) proposed an alternative measure of future self-continuity. The 10-item questionnaire consists of three subscales: similarity to the future self (four items, e.g., ''How similar are your beliefs now to what they will be like 10 years from now?''), vividness of the future self (three items, e.g., ''How vividly can you imagine what you will be like in 10 years from now?'') and positive affect to the future self (three items, e.g. ''Do you like what you will be like 10 years from now?''). Participants are asked to indicate their level of agreement/disagreement with the items on a seven-point scale (1 = *completely different/not at all*, 7 = *exactly the same/perfectly*).

Moral Foundations Questionnaire (MFQ). An Italian adaptation (Bobbio, Nencini & Sarrica, 2011) of the original MFQ (Graham et al., 2009) was used. It is used to measure individual differences in five moral foundations. The questionnaire is composed of two 15-item subscales. In the Relevance subscale, participants are asked to determine how much each consideration presented in the items is relevant when making moral judgments (e.g., ‘’Whether or not someone suffered emotionally’’). The answers are provided on a seven-point scale (1 = *not relevant at all*, 7 = *extremely relevant*). The Judgement subscale (e.g., ‘’It can never be right to kill a human being’’) asks the participants to indicate their level of agreement/disagreement with the items on a seven-point scale (1 = *strongly agree*, 7 = *strongly disagree*). Responses in both subscales can be combined to form scores for the moral foundations: harm (six items), fairness (six items), loyalty (six items), authority (six items), and sanctity (six items). Harm and fairness items were combined into an index of individualizing MFs, whereas loyalty, authority, and purity items formed the binding MFs variable (see Graham et al., 2011).

Personality. Extraversion, conscientiousness, agreeableness, and openness were measured using the Italian version of the 60-item HEXACO-PI (Ashton & Lee, 2009). Because the honesty-humility and emotionality might be strongly related to moral decision-making (Kroeninsen & Heck, 2020), we included the items from the 100-item HEXACO-PI (Lee & Ashton, 2017) to assess the remaining two personality dimensions. The participants needed to provide their agreement/disagreement with the items on a 7-point scale (1 = *completely disagree*, 7 = *completely agree*).

Self-Reported Single Item (SRSI; Meade & Craig, 2012). We used the SRSI to identify whether we should use the data from a given participant in our study. The measure was designed to detect careless responses. This single-item measure asks participants to respond with a yes/no answer whether they think their data should be used in further analyses. We excluded the data from participants who answered with "*no*".

2.2.3. Results and Discussion

The analysis of the raw data was done inside the R statistical software (R Core Team, 2020). The psych package carried out descriptive and correlational analysis (Revelle, 2019). The principal components analysis was done using the psych (Revelle, 2019) and GPArotation (Bernaards, Coen & Jennrich, 2005) packages. Finally, the jtools package (Long, 2019) was used to conduct the moderation analysis.

For the FCSQ, we ran a principal component analysis (PCA) with an oblimin rotation. The Scree-test and Parallel analysis (Horn, 1965) suggested a three-component solution corresponding to the FSQ subscales. The loadings of items on their respective components ranged between .59 and .83. The Similarity subscale correlated moderately with the Vividness (r = .29) and Positive Affect (r = .30) subscales. The correlation between Vividness and Positive Affect was low (r = .20). The three-component solution explained 65% of the variance.

For the MFQ a two-component solution emerged with an oblimin rotation. The first component corresponded to individualizing MFs subscales (loadings ranged between .64 and .75), while the second represented the binding MFs subscales (all item loadings were between .36 and .76). The components were weakly related (r = .13). The extracted components explained 33% of data variance.

All in all, both PCA demonstrated that our data fitted the proposed theoretical models of future self-continuity and moral foundations.

2.2.3.1. Future Self Continuity and the Structure of Morality

Table 1. contains the descriptive statistics, internal consistency coefficients, and correlations between study variables. A positive and significant relationship was identified between the Individualizing moral foundations and FCSQ Similarity. A significant, albeit negligible correlation, was found between the Binding moral foundations and the FSCQ Positive affect subscale. Other

associations between the FCSQ subscales and moral foundations clusters were non-significant. We also examined the correlational patterns between the FCSQ subscales and the five moral foundations individually. FSCQ Similarity correlated positively with both Harm and Fairness, with the correlation with Harm being stronger. The same subscale was positively related to Loyalty, but not Authority and Purity. Additionally Loyalty correlated positively to all three FSCQ subscales, while we found positive relation Purity and FSCQ Positive Affect.

We observed weak to moderate relationships between Extraversion and all three FCSQ subscales. To further explore this somehow unexpected relations' nature, we correlated the FCSQ and Extraversion facets and found that only Social self-esteem had significant correlations with the subscales of Similarity ($r = .37$, $p < .001$), Vividness ($r = .29$, $p < .001$), and Positive Affect ($r = .42$, $p < .001$). All other Extraversion facets were non-significantly related to FCSQ subscales (all ps > .152).

This finding prompted us to explore further if (social) self-esteem moderates FSC in predicting individual differences in MFs. A model including Social self-esteem, FCSQ Similarity, and their interaction was fitted to predict Individualizing moral foundations. The moderation model is presented in Figure 2. All variables were centered before the analysis (Aiken & West, 1991). The observed interaction effect was significant, $b = .09$, $t(191) = 3.11$, $p = .049$. The moderation effect of Social self-esteem is shown in Figure 3. Conditional effects of Similarity with the future self were tested on three levels of Social self-esteem, 1 SD below the mean, at the mean, and 1 SD above the mean. Similarity with the future self was significantly related to Individualizing moral foundations when Social Self-Esteem was 1 SD above the mean, $b = .31$, $t(191) = 3.78$, $p < .001$, but not when Social Self-Esteem was 1 SD below the mean, $b = .09$, $t(191) = 1.01$, $p = .320$. Additionally, we examined whether Social Self-Esteem was a significant moderator for the effect of the other two FCSQ subscales. The

interactions for both the Vividness, $b = .05$, $t(191) = 1.50$, $p = .370$, and the Positive affect, $b = .02$, $t(191) = .54$, $p = .589$, were non-significant.

Table 1.

Study 1: Means, Standard Deviations, and Correlations of the Study Variables.

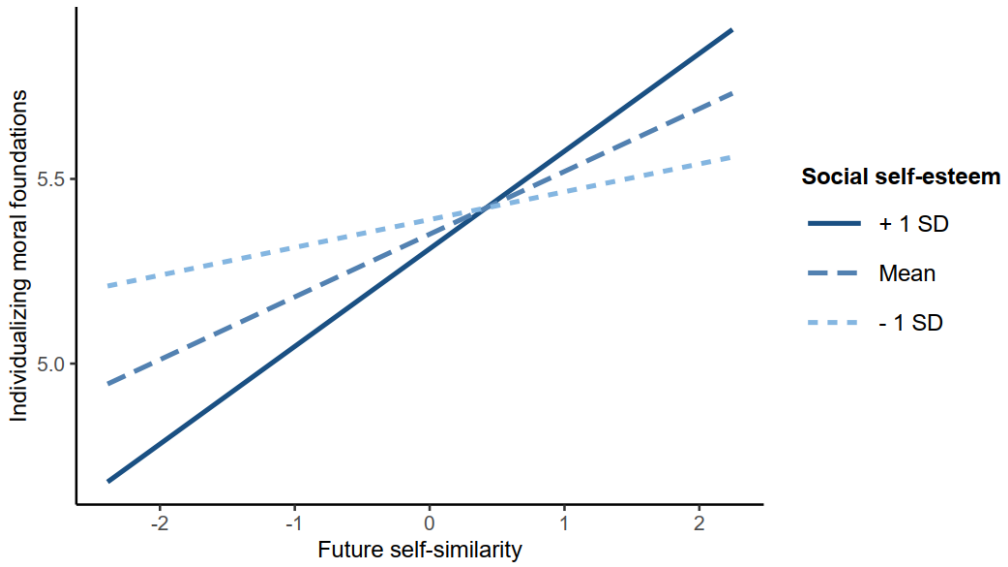
Variable	*M*	*SD*	*α*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FSCQ Similarity (1)	5.06	0.86	.73																	
FSCQ Vividness (2)	4.04	1.14	.70	**.43****																
FSCQ Positive Affect (3)	5.18	0.97	.81	**.43****	**.55****															
FSCS (4)	4.37	1.43		**.35****	**.25****	**.24****														
Individualizing MFs (5)	5.39	0.72	.73	**.22****	.07	.13	.07													
Binding MFs (6)	3.91	0.89	.86	.12	.12	**.17***	.04	**.21****												
Honesty (7)	5.29	0.79	.89	.05	.01	-.01	.10	**.40****	-.01											
Emotionality (8)	4.47	0.83	.88	**-.19****	**-.17***	-.10	-.02	**.22****	**.17***	**.18***										
Extraversion (9)	4.15	1.00	.79	**.27****	**.23****	**.31****	**.20****	.07	**.28****	.11	**-.16***									
Agreeableness (10)	3.82	0.86	.70	-.03	.07	.12	.01	.03	**.18***	.12	**-.16***	**.15***								
Conscientiousness (11)	4.89	0.87	.75	.03	.03	.08	.12	.03	.03	**.18***	.10	.11	-.07							
Openess (12)	4.77	0.92	.70	.06	.00	-.02	.11	.10	**-.22****	**.14***	.05	**.16***	.12	.13						
Harm (13)	5.30	0.89	.58	**.24****	.05	.13	.08	**.91****	**.26****	**.38****	.28	.08	.04	-.01	.08					
Fairness (14)	5.47	0.74	.58	**.15***	.07	.10	.03	**.87****	.10	**.32****	.10	.04	.00	.07	.11	**.58****				
Loyalty (15)	4.29	1.03	.71	**.18***	**.15***	**.15***	**.10***	**.26****	**.85****	**.06**	.13	**.28****	**.16***	-.01	-.14	**.35****	.10			
Authority (16)	4.03	1.07	.71	.05	.03	.12	.06	.09	**.87****	**-.15***	.13	**.21****	.12	.03	-.25	.12	.03	**.63****		
Purity (17)	3.43	1.04	.69	.07	.12	**.16***	-.05	.19*	**.83****	.08	.19*	**.24****	**.18***	.06	-.19	**.21***	.12	**.55****	**.59****	

Note. M and SD represent the means and standard deviations. α represents the internal consistency coefficient (Cronbach's alpha). It was impossible to calculate the alpha coefficients FSCS because it is a single-item measure. * indicates $p < .05$. ** indicates $p < .01$.

In summary, in line with the hypotheses, high perceived similarity with the future self is positively related to greater concern for harm and fairness, but only for individuals with high self-esteem.

Figure 3.

Simple Slopes for the Moderating Effect of Social Self-Esteem on the Relationship Between Future Self-Similarity and Individualizing Moral Foundations.



In line with expectations, we have found initial correlational evidence that future self-continuity is positively related to the concerns for individualizing moral foundations. However, not all future self-continuity components contributed equally to understanding individualizing moral foundations. At least on a correlational level, participants' scores on individualizing moral foundations correlated significantly (and positively) only with future self-similarity but not with other FCSQ subscales. In other words, feeling that one might not change over time might be more relevant in fostering a greater reliance on harm and justice when judging present moral behavior than vividness and positivity towards the future self. The effect seems stronger for individuals with a positive attitude toward themselves now compared to individuals with lower levels of self-esteem. Furthermore, future self-

similarity achieved a positive effect on individualizing moral foundations when also considering participants with moderate levels of self-esteem. In this study, we have found that the effect of similarity with the future self on individualizing moral foundation is significant only for participants with high levels of social self-esteem. Recognizing positive qualities in one's current self might lead to greater levels of future self-continuity and, thus, greater importance of individualizing moral foundations. Additionally, we also explored the relationship between future self-similarity and moral foundations for each individual foundation. Future self-similarity was positively associated with both harm and fairness concerns. However, it seems that the effect on harm was stronger that the one on fairness. On the other hand, the it seems that the positive relation between future self-similarity and binding moral foundations was driven soley by loyalty concerns. The other two binding foundations were not significantly related to future self-similarity. We extend upon these findings by employing different experimental designs to study the hypothesized effects in subsequent studies.

It is also important to emphasize that we performed the same analysis with the FSCS. While the estimated correlational directions were the same, the observed magnitudes were higher when the FSCQ Similarity was compared to the FSCS. This study reaffirmed the concerns made by Sokol and Serper (2019). Future self-continuity is a complex construct that should be measured using more sophisticated methods than the one-item FSCS measure.

2.3. Study 2: Identifying an effective future self-similarity manipulation

Previous manipulations of future self-similarity included a letter-writing task where participants were asked to list different characteristics they feel will be shared with their future selves (see Hershfield et al., 2012; Bartels & Rips, 2010; Bartels & Urminsky, 2015). The general logic of such manipulations prompts participants to focus on different traits, goals, values, and ideas they might share with their future selves. By focusing on similarities, participants should be able to perceive higher

levels of future-self continuity. Other manipulations focused on vividness asked participants to imagine their future selves and interact with them using novel technology (Hershfield et al., 2011; Van Gelder et al., 2013, Van Gelder et al., 2015). However, a high number of these studies did not include manipulation checks to be able to understand how the intended manipulation works. When manipulation checks were used (Hershfield et al., 2012; Bartels & Urminsky, 2015), they revealed modest to low effects on future self-continuity. One possible explanation for the lack of effective future self-continuity manipulation is that short-term interventions make the construct challenging to change (Hershfield et al., 2012).

Another way to interpret these findings is that participants were not induced to think about similarities in a global sense before working on the task. For example, according to Mussweiler's (2003) selective accessibility model, comparative thinking involves evaluating the similarities and dissimilarities of two or more entities. The initial assessment of the entities determines which kinds of information the individual will focus on during comparison. A similarity hypothesis (the stimuli are similar to the individual) leads to a higher focus on similarities, while a dissimilarity hypothesis (the stimuli are not similar to the individual) results in a greater focus on dissimilarities during comparative thinking.

In experimental designs that focus on manipulating the two types of comparative thinking, participants are usually asked to focus on either similarities or dissimilarities in a picture comparison task (e.g., Corcoran et al., 2011; Crusius & Mussweiler, 2012; Mussweiler & Epstude, 2009; Posten & Mussweiler, 2017). In the same vein, we expect that priming participants to think about similarities in a more global manner will make them more focused on finding similarities with their future selves in the letter-writing task and thus report higher similarity levels. Although we recognize Hershfield and colleagues (2012) reasons not to include a dissimilarity condition, we decided to keep this condition to

simultaneously manipulate the levels of general comparative and future-oriented focus. Specifically, we compared our similarity-focused experimental group with three different control groups to find an effective manipulation that would help us to make causal inferences about the effect of future self-continuity on moral concerns.

2.3.1. Participants

All participants accessed the online study via a link that served as a redirector to our questionnaire form that we shared on internet forums and social media (Reddit and Facebook). Our sample consisted of 221 participants (N_{male} = 106, N_{female} = 102, N_{other} = 13) with an average age of 26 (M = 25.90, sd = 8.53, Min = 18, Max = 74). They were randomly assigned to four experimental conditions: similarity (n = 52), dissimilarity (n = 58), future-focused control condition (n = 58), and a neutral control condition (n = 53). A sensitivity power analysis revealed that for a one-way ANOVA with four groups, the statistical test could detect a medium-sized effect (f = .22) with our sample size when considering power at .80 and α = .05.

2.3.2 Materials and Procedure

Our experimental manipulation included two seemingly unrelated tasks. First, we adopted Mussweiler and colleagues (see; Corcoran et al., 2011; Crusius & Mussweiler, 2012; Mussweiler & Epstude, 2009; Posten & Mussweiler, 2017) picture comparison task to prompt participants to assume either a similarity-oriented or a dissimilarity-oriented general focus. The second part of the manipulation included the writing task adopted from Hershfield and colleagues (2012) to induce thinking about future-self similarities/dissimilarities compared to the present-self. Participants needed to spend at least two minutes working on the task before advancing to the next part of the study. Upon completing the two assignments, participants filled out the FSCS and the FCSQ ($\alpha_{Similarity}$ = .77, $\alpha_{Vividness}$ = .66, $\alpha_{Positivity}$ = .81).

The study included three control conditions developed to gain insights into how the manipulation works. One condition controlled for the specific focus on similarity vs. dissimilarity (*dissimilarity*). It has been argued that focusing on dissimilarities, albeit opposite to a similarity focus, implies generating information about similarities with the target stimulus (Hershfield et al., 2012; see also Todd et al., 2011). The second condition included a focus on the future in general. Previous studies have used this condition to manipulate future self-continuity (Bartels & Urminsky, 2015; Hershfield et al., 2012). Finally, we used a general control condition to understand whether focusing on the future regardless of the intended target (future self or the future in general) increases future self-continuity. A brief description of the four experimental conditions follows.

Figure 4.

Participants in the Similarity and Dissimilarity Conditions Were Presented with Vertically Cut Pictures (Similarity/Dissimilarity focus task; Upper Row), While the Remaining Participants Worked With the Same Uncut Materials (Feature Identification Task; Bottom Row).

Group 1: similarity condition. In the picture comparison task, participants were presented with two images. The first picture depicted a jungle scene, while the second showed a lake scene. Both pictures were vertically cut in half. The participants needed to analyze the two halves of both pictures and, for each picture list three similarities between the two halves (see Figure 4). After completing the task, they received the following instruction for the writing task:

"In many important ways, people remain the same over time. Recent research in psychology has found that, at the core, people are very similar from one period of time to another. Please think about what you will be like in ten years and list all of the ways in which you think you will be similar to how you are now. Take two minutes to think about and write the answers to this question. You will be able to advance to the next page after the timer (shown in the upper left corner) expires."

Group 2: dissimilarity condition. Participants were presented with the same two vertically cut pictures in the picture comparison tasks. Their task was to analyze both pictures and list three things that were different between them for each picture. After completing this task, they read the instruction for the writing task:

"In many important ways, people change over time. Recent research in psychology has found that people are very different from one period of time to another. Please think about what you will be like in ten years and list all of the ways in which you think you will be different from how you are now. Take two minutes to think about and write down the answers to this question. You will be able to advance to the next page after the timer (shown in the upper left corner) expires."

Group 3: future-focused control condition. In the first control condition, the pictures were not vertically cut in half. The participants were asked to name three features of each picture. For the letter-writing task, participants were instructed to think about the world ten years in the future:

" Please think about what the world will be like in 10 years and list all your ideas about the world ten years in the future. Take two minutes to think about the world in the future and provide the answers to this question. You will be able to advance to the next task after the timer (shown in the upper left corner) expires."

Group 4: neutral control condition. The first part of the experimental task was the same as in the first control condition. The participants were asked to name three features of the two pictures. Instead of the writing task, participants were working on a general cognitive task. Participants were asked to count how many times the letter "e" was present in a text. The task lasted approximately as the other conditions, and the participants could advance to the next part of the study after spending at least two minutes on the task.

2.3.3. Results and Discussion

Data analysis was conducted within the R statistical software (R Core Team, 2020). The psych package (Revelle, 2019) was used to perform data cleaning and descriptive analysis, while the ANOVA analysis and its follow-ups were done inside the basic stats (R Core Team, 2020) and sjstats (Lüdecke, 2020) packages.

Descriptive statistics and the ANOVA results are presented in Table 2. We found group differences in FSCQ Similarity scores. However, no group differences emerged on the Vividness and Positive affect subscales and the FSCS. To further explore the significant experimental effect on FSCQ Similarity, we ran a series of six post-hoc test controlling for family wise error-rates using the Bonferroni correction. The similarity group scored higher on FSCQ Similarity than the neutral control group, $t(103) = 2.781$, $p = .035$, $d = .51$. However, the similarity group did not differ from the disimilarity, $t(108) = 1.13$, $p = .999$, $d = .22$; and the future-focused control group, $t(108) = .55$, $p = .999$, $d = .11$, although directionally the FSCQ similarity was higher in the similarity condition.

Furthermore, the general future-focused condition did not differ from the general control, $t(109) = 2.24$, $p = .132$, $d = 0.42$; and the disimirality conditions, $t(114) = 0.65$, $p = .999$, $d = 0.12$. Finally, we observed no differences between the dissimilarity and general control conditions, $t(109) = 1.72$, $p = .519$, $d = 0.33$.

Table 2.

ANOVA Table With Means and Standard Deviations of the Study Results.

Variable	*Group*	*M*	*SD*	*F*(3, 217)	η^2
FSCQ Similarity	Similarity	4.94	1.10	2.94*	.039
	Dissimilarity	4.62	1.78		
	Future-focused control	4.24	1.92		
	Neutral control	4.37	1.16		
FSCQ Vividness	Similarity	3.83	1.23	1.28	.017
	Dissimilarity	3.53	1.29		
	Future-focused control	3.79	1.08		
	Neutral control	3.44	1.36		
FCSQ Positive Affect	Similarity	4.87	0.98	0.20	.003
	Dissimilarity	5.01	1.30		
	Future-focused control	4.92	1.19		
	Neutral control	4.86	1.21		
FSCS	Similarity	4.10	1.74	1.39	.019
	Dissimilarity	3.62	1.78		
	Future-focused control	4.24	1.92		
	Neutral control	3.77	1.87		

Note. M and SD represent the means and standard deviations. * indicates $p < .05$. ** indicates $p < .01$. Degrees of freedom for the F test are specified in brackets.

To summarize, participants that were prompted to focus on similarities in general before thinking about similarities they might share with their future self reported higher levels of future self-similarity compared to the neutral control condition group. However, these participants did not differ from the dissimilarity condition group and the future thinking control group. This pattern of results was not found for the Vividness and Positive affect subscales, providing evidence that the manipulation effect was specific to the similarity component of future-self continuity**.** We will expand upon the issue regarding the manipulation of future self-similarity in the Section 2.10.1.

2.4. Study 3: Initial Experimental Evidence of the Effect of Future Self-Continuity on Individualizing Moral Foundations

In Study 3, we aimed to replicate the correlational patterns identified in Study 1. Furthermore, we attempted to extend the findings of our previous study by providing evidence that experimental manipulation of future self-similarity affects moral foundations concerns (*Hypothesis 1*) and that this effect is stronger for individualizing moral foundations (*Hypothesis 2*). Based on the results from our pretest, we decided to manipulate future self-continuity with the picture comparison task (Corcoran et al., 2011; Crusius & Mussweiler, 2012; Mussweiler & Epstude, 2009; Posten & Mussweiler, 2017) and the letter writing task (Hershfield et al., 2012). Also, building on the results from Study 1, as an ancillary analysis, we aimed to find further evidence that self-esteem moderates the causal relationship between future-self continuity and individualizing moral foundations (*Hypothesis 5)*.

2.4.1. Participants

We estimated an effect size from our previous correlational study to conduct a power analysis ($d = 0.45$). Power analysis revealed that a minimum of 124 participants (62 per experimental group)

were needed to detect a meaningful effect when power is set at .80. A total of 171 participants accessed the online study. Fluent Italian was needed to complete the questionnaire form. We invited participants via social media paltforms and internet forums (Facebook and Reddit), intending to recruit samples from online free questionnaire participation platforms (SurveySwap and SurveyCircle) and using snowball sampling. After eliminating careless responses and univariate outliers ($|z| \geq 3.00$), the sample size consisted of 135 (N_{female} = 69, N_{male} = 65, N_{other} = 1) valid participants with an average age of 34 years (M = 33.76, SD = 13.94). Participants were randomly assigned to an experimental (n = 72) and a control (n = 63) group. A sensitivity power analysis showed that with our sample size, an independent samples t-test could detect a medium-sized effect (d = 0.49) when considering power at .80 and α = .05.

2.4.2. Material and Procedure

After giving consent, all participants filled out the Social self-esteem subscale of the HEXACO-PI 200-item version (Lee & Ashton, 2017) and the Self-esteem Scale (Rosenberg, 1965). We decided to include two alternative measures of self-esteem to 1) replicate our findings on the experimental level and 2) considering the marginal significance of our moderation model in Study 2, we wanted to test for robustness of our results for different self-esteem measures. Then, participants worked on their respective experimental tasks. In the experimental group, participants were asked to finish the picture comparison task with vertically cut pictures (see Mussweiler & Epstude, 2009; Corcoran et al., 2011; Crusius & Mussweiler, 2012; Posten & Mussweiler, 2017) and the letter-writing task (Hershfield et al., 2012). Control participants worked on the feature identification task with uncut pictures and a general control task (see Study 2). After finishing their respective assignments, participants completed the remaining measures: FSCS, FSCQ ($\alpha_{Similariy}$ = .79, $\alpha_{Vividness}$ = .66, $\alpha_{Positivity}$ = .86), MFQ ($\alpha_{individualizing}$ = .80, $\alpha_{binding}$ = .86,), and the SRSI. The study lasted approximately 15 minutes. A brief description of the scales not used in the previous study follows.

Social Self-esteem (α = .82). We used the Social self-esteem facet subscale of the HEXACO-PI 100-item version (Ashton & Lee, 2017). The scale assesses the tendency to evaluate oneself positively in social contexts. It comprises eight items where participants must provide their agreement/disagreement with the items on a seven-point scale (1 = *completely disagree*, 7 = *completely agree*). Higher scores indicate higher self-esteem, while lower scores describe individuals that view themselves as less worthy and popular.

Self-esteem scale (α = .70; Rosenberg, 1965). The Rosenberg Self-esteem Scale is widely used to measure individual differences in global self-esteem. On ten items, participants need to indicate their level of agreement/disagreement with the statements on a seven-point Likert (1 = completely disagree, 7 = completely agree). High self-esteem is related to higher scores on this scale, while lower scorers tend to have a less positive attitude toward themselves.

2.4.3. Results and Discussion

The analysis of the raw data was done inside the R statistical software (R Core Team, 2020). Data cleaning, descriptive, and correlational analyses were carried out with the psych package (Revelle, 2019), multivariate and univariate tests of group differences as well as regression analysis were done in the basic stats package (R Core Team, 2020), while mediation analysis was done inside the lavaan package (Rosseel, 2012). Table 3 contains the analysis of correlational data, while descriptive statistics related to the respective experimental groups are presented in Table 4.

2.4.3.1. Correlational Analyses

Table 3.

Study 2: Means, Standard Deviations, and Correlations of the Study Variables.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
FSCQ Similarity (1)	5.13	0.96													

FSCQ Vividness (2)	4.25	1.14	**.40****											
FSCQ Positive Affect (3)	5.21	1.11	**.46****	**.49****										
FSCS (4)	4.06	1.71	**.24****	.15	**.18***									
Individualizing MFs (5)	5.38	0.89	**.39****	.03	**.19***	.00								
Binding MFs (6)	4.19	0.96	.09	.13	.15	-.08	**.34****							
Harm (7)	5.38	1.04	**.30****	.01	.11	-.07	**.90****	**.39****						
Fairness (8)	5.38	0.94	**.41****	.05	**.23****	.08	**.88****	**.22****	**.59****					
Loyalty (9)	4.18	1.09	.02	.13	.13	-.09	**.25****	**.87****	**.25****	**.19***				
Authority (10)	4.60	1.01	.12	.08	**.23****	-.02	**.42****	**.86****	**.46****	**.29****	**.67****			
Purity (11)	3.79	1.21	.09	.13	.04	-.09	**.24****	**.87****	**.31****	.10	**.62****	**.60****		
Rosenberg self-esteem scale (12)	4.96	0.78	**.19***	**.36**	**.29****	.14	-.02	**.21***	.05	-.10	.11	.16	**.25****	
Social self-esteem (13)	4.16	1.28	.08	**.16***	.12	.10	-.09	-.08	-.05	-.10	-.12	-.03	-.07	**.46****

Note. M and SD represent the means and standard deviations. α represents the internal consistency coefficient (Cronbach's alpha). It was impossible to calculate the alpha coefficients FSCS because it is a single-item measure. * indicates $p < .05$. ** indicates $p < .01$.

According to Table 3 we found significant and positive correlational patterns between FCSQ Similarity and individualizing moral foundations, replicating the results from Study 1. Furthermore, the Similarity subscale of the FCSQ once again significantly correlated with both harm and fairness concerns. On the other hand, the correlations with the composite score of the binding moral foundations and loyalty, authority, and purity scores were lower than in Study 1. Finally, FCSQ Similarity had a medium positive correlation with the Rosenberg's self-esteem scale, while we did not identity the same correlational relationship with the Social self-esteem scale.

2.4.3.2. Experimental analyses

Table 4.

Group Means and Standard Deviations of the Study Variables.

Group	Similarity		Vividness		Positivity		Individualizing moral foundations		Binding moral foundations	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental	5.41	.69	4.26	1.11	5.34	.99	5.56	.69	4.26	.98
Control	4.80	1.11	4.24	1.18	5.06	1.21	5.18	1.04	4.11	.94

Note. M and SD represent the means and standard deviations

We first examined whether our manipulation effectively increased participants' perceived similarity with their future selves. An independent samples t-test showed that participants in the experimental group scored significantly higher on the Similarity subscale of the FCSQ than control participants, $t(133) = 3.88$, $p < .001$, $d = 0.68$, 95% CI [0.31, 1.03]. In other words, our manipulation check showed that our experimental manipulation was successful. Furthermore, we did not find group differences in the Vividness, $t(133) = 0.11$, $p = .914$, $d = 0.02$, 95% CI [-0.32, 0.36] and the Positive affect subscales, $t(133) = 1.47$, $p = .144$, $d = 0.26$, 95% CI [-0.09, 0.60].

A one-way MANOVA revealed significant group differences on binding and individualizing moral foundations considered together, $F(2, 132) = 4.30$, $V = .06$, $p = .016$, $\eta^2_p = .05$; [0.01, .11]. Two separate univariate tests identified that the experimental and control groups differ on individualizing moral foundations, $t(133) = 2.56$, $p = .011$, $d = 0.44$, 95% CI [0.10, 0.79]; but not on binding MFs, $t(133) = .90$, $p = .371$, $d = 0.16$, 95% CI [-0.18, 0.49].

Also, we conducted a parallel mediation analysis (Model 4; Hayes, 2018) to examine the indirect effect of our experimental manipulation on individualizing MFs and binding moral foundations through higher levels of perceived future self-similarity. Participants' scores on FCSQ Similarity, Vividness, and Positive affect were included as mediator variables in a model containing the manipulation as the independent variable (0 = control group, 1 = experimental group) and the

individualizing and binding moral foundations as the dependent variables. The proposed mediation model is shown in Figure 5. We applied the bootstrapping method (10,000 bootstrapped samples) to estimate the indirect effects. Table 4 contains the estimated indirect effects. Future self-similarity significantly mediated our experimental effect on individualizing moral foundations. All other indirect effects of the other two future self-continuity facets were not significant (all CIs included zero). Additionally, the indirect effect through future self-similarity was stronger for individualizing than binding moral foundations, *b* = .22, 95% CI [.070, .456]. On the other hand, there was no difference between the indirect effects for moral foundations through both vividness, b = .00, 95% CI [-.100, .080], and positivity, *b* = -.01, 95% CI [-.120, .035].

Table 5.

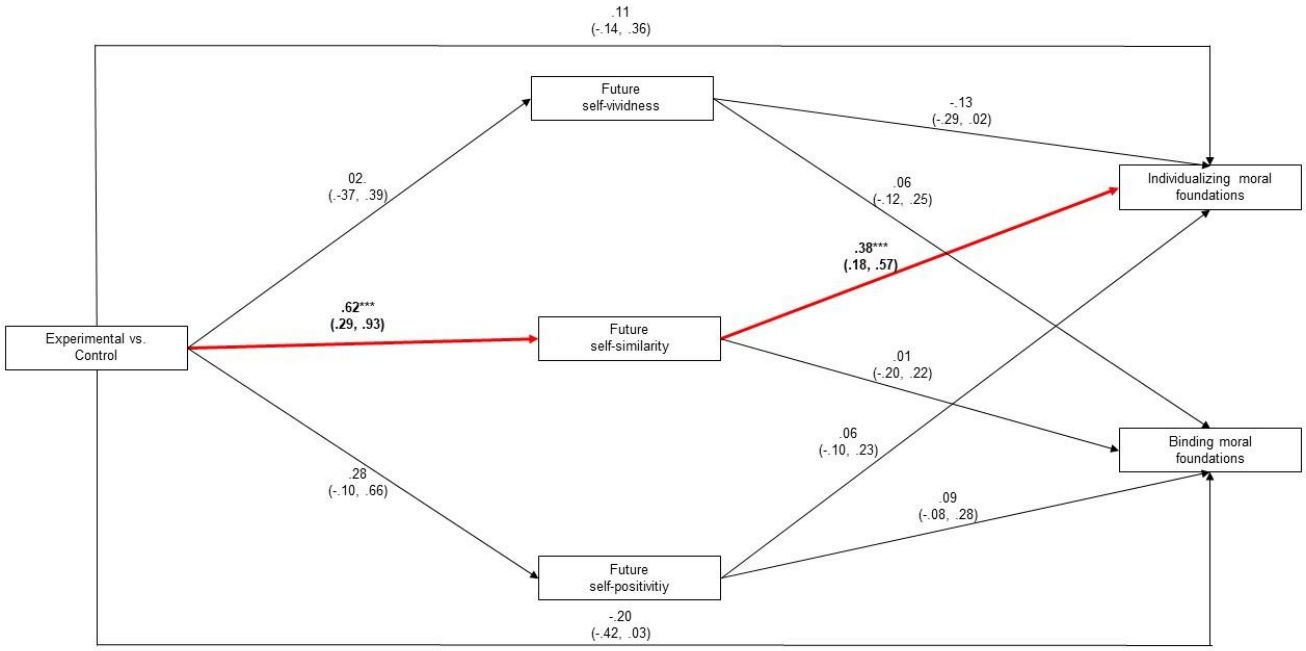
Study 3: Tested Indirect Effects for the Parallel mediation Model Containing Condition as the Independent Variable, Future self-continuity components as mediators, and Moral Foundations as Dependent Variables.

Indirect effect	b	95% LCI	95% UCI
Condition → future self-similarity → individualizing moral foundations	**.23**	**.080**	**.465**
Condition → future self-vividness → individualizing moral foundations	.00	-.072	.058
Condition→ future self-positivity → individualizing moral foundations	.02	-.021	.117
Condition → future self-similarity → binding moral foundations	.01	-.116	.148
Condition → future self-vividness → binding moral foundations	.00	-.037	.064
Condition → future self-positivity → binding moral foundations	.03	-.014	.145
Condition → individualizing moral foundations	.11	-.140	.360
Condition → binding moral foundations	-.20	-.42	-.03

Note. *b* = value of the unstandardized regression coefficient. 95% LCI = lower bound of the 95% confidence interval for the estimated indirect effects. 95% UCI = upper bound of 95% confidence interval for the estimated indirect effects. Confidence intervals that do not contain zero are indicative of a significant indirect effect (bolded).

Figure 5.

Study 3: The Tested Parallel Mediation Model Containing Condition as the Independent Variable, Future self-continuity Components as Mediators, and Moral Foundations as Dependent Variables. Significant Paths are Marked With Bolded Red Arrows.



Note. *indicates p < .05, **indicates p < .01, *** indicates p < .001

We did not find evidence of a moderation effect on self-esteem. We ran two separate regression models with manipulation (Models 1 and 2), Social Self-esteem subscale (Model 1), and Rosenberg Social Self-esteem scale (Model 2) being the predictors of participants' scores on the Individualizing moral foundation subscale. Both the interaction effects for Model 1, *b* = .002, *t*(134) = .02, *p* = .984,

and Model 2, $b = .144$, $t(134) = .75$, $p = .455$, were non-significant, indicating not enough evidence to support the claim that self-esteem moderates the relationship between the experimental manipulation and individualizing moral foundations.

Study 3 demonstrated that manipulating future self-similarity can increase participants' concerns about harm and fairness. Participants in the experimental group increased their perceptions of similarity with their future selves and scored higher on the individualizing moral foundations subscale than control participants. The same effect was not present when considering binding moral foundations as the dependent variable. Additionally, we have shown that the manipulation achieves its desired effect through higher levels of future self-similarity. This mediation effect was not present when considering two other future self-continuity components as mediators. Furthermore, we have also found evidence that the estimated indirect effect through future self-similarity was stronger for individualizing moral than binding moral foundations. This pattern was not found for the vividness and positivity components, suggesting, at least in Study 3, that our effect was specific for future self-similarity.

Although opposed to our initial expectations and the results from Study 1, it seems that participants with higher self-esteem do not show greater concerns for justice and fairness when asked to think about the characteristics they and their future selves will share. It seems noteworthy to investigate other possible explanations of how future self-continuity affects the moral domain. To achieve this goal, our next set of studies explored the mediational effect of moral identity.

Also, it is important to note that we conducted the same analyses with FSCS as the dependent variable and then as a mediator between the experimental manipulation and individualizing moral foundations. As in our previous studies, the results were in the same direction as our main analysis but did not reach significance once again, implying that FSCQ Similarity might be a superior measure of

the construct than FSCS. In that regard, in our following studies, we have measured future self-continuity by relying only on FSCQ.

2.5. Study 4: Exploring the Mediational Role of Moral Identity

Our previous two studies provided correlational and experimental evidence of a positive effect of future self-similarity on individualizing MFs. However, the mechanisms through which future self-similarity promotes harm and justice concerns remained unanswered. Therefore, in Study 4, we aim to understand how one such potential construct, moral identity, mediates the effect of our manipulation on individualizing MFs (*Hypotheses 3-4*). Our ancillary aim was to replicate the direct effect of our manipulation identified in the previous study.

2.5.1. Participants

We used the Monte Carlo power analysis method Schoemann and colleagues (2017) recommended to determine the required sample size. Power analysis for a simple mediation model was performed (Model 4; Hayes, 2013) on 5,000 replications with 20,000 Monte Carlo draws per replication. Because we were unaware of studies examining the relationship between future self-similarity and moral identity, we took a conservative approach and assumed correlations (r = .25) similar to the effect size identified in a previous study (r = .247). A minimum of 220 participants is needed to detect a significant indirect effect of the mediator when power is set at .80, given the specified parameters.

We collected data on on the online platform prolific.co. We invited registered Italian-speaking participants and paid $2.20 for a 15-minute participation. Our sample consisted of 250 participants (N_{male} = 90, N_{female} = 157, N_{other} = 3) with an average age of 27 years (M = 27.04, SD = 9.40). We did not detect careless responses or relevant outliers. All participants were randomly assigned to an experimental (n = 128) and a control (n = 122) group. Given our sample size, it was possible to detect a

minimum significant indirect effect of b = .04 when considering low correlations between the variables (r = .23) and setting power at .80 and α = .05.

2.5.2. Materials and Procedure

After providing informed consent, all participants were asked to work out their respective tasks. The experimental manipulation was identical to the one employed in Study 3. Then, participants filled out the FSCQ ($\alpha_{Similarity}$ = .75, $\alpha_{Vividness}$ = .72, $\alpha_{Positivity}$ = .82), a state version of the Moral Internalization Scale (MIS-S; Aquino & Reed, 2002), and the MFQ ($\alpha_{individualizing}$ = .75, $\alpha_{binding}$ = .82). Approximately 15 minutes was needed to finish the study.

The State Version of the Moral Internalization Scale (Aquino & Reed, 2002; α = .79). In this measure, participants are presented with nine traits (e.g., honest) that describe an ideal moral person (see Aquino & Reed, 2002, Pilot Study 2). Then, participants are asked to indicate their level of agreement/disagreement with five items related to the mentioned traits on a seven-point scale (1 = *not relevant at all*, 7 = *extremely relevant*). Because we were interested in the state moral identity centrality, we modified the instructions present in the original measure ("Now, think how you feel in this moment and answer the following statements").

2.5.3. Results and Discussion

Data analysis was done inside the R statistical software (R Core Team, 2020). We used the psych package (Revelle, 2019) to conduct descriptive analysis, while multivariate and univariate tests were implemented with the help of the stats (R Core Team, 2020) and the rstatix packages (Kassambra, 2020). Finally, mediation analyses were performed with the lavaan package (Rosseel, 2012). Descriptive statistics of group means are shown in Table 5.

Table 6.

Study 4: Group Means and Standard Deviations of the Study Variables.

Group	Similarity		Vividness		Positivity		Individualizing moral foundations		Binding moral foundations		Moral identity	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental	5.24	.72	4.14	1.14	5.20	1.01	5.57	.72	3.89	.84	5.73	.94
Control	4.54	.95	3.65	1.25	4.91	.97	5.57	.73	4.04	.90	5.58	1.05

Note. M and SD represent the means and standard deviations

Replicating the effect from Study 3, we have once again found that the experimental participants reported higher level of future self-similarity than their control counterparts, $t(248) = 6.56$, $p < .001$, $d = .83$, 95% CI [0.56, 1.10]. The experimental group also had significantly higher scores in the Vividness, $t(248) = 3.23$, $p = .001$, $d = .41$, 95% CI [0.16, 0.66]; and the Positive Affect subscales, $t(248) = 2.33$, $p = .021$, $d = .30$, 95% CI [0.04, 0.55].

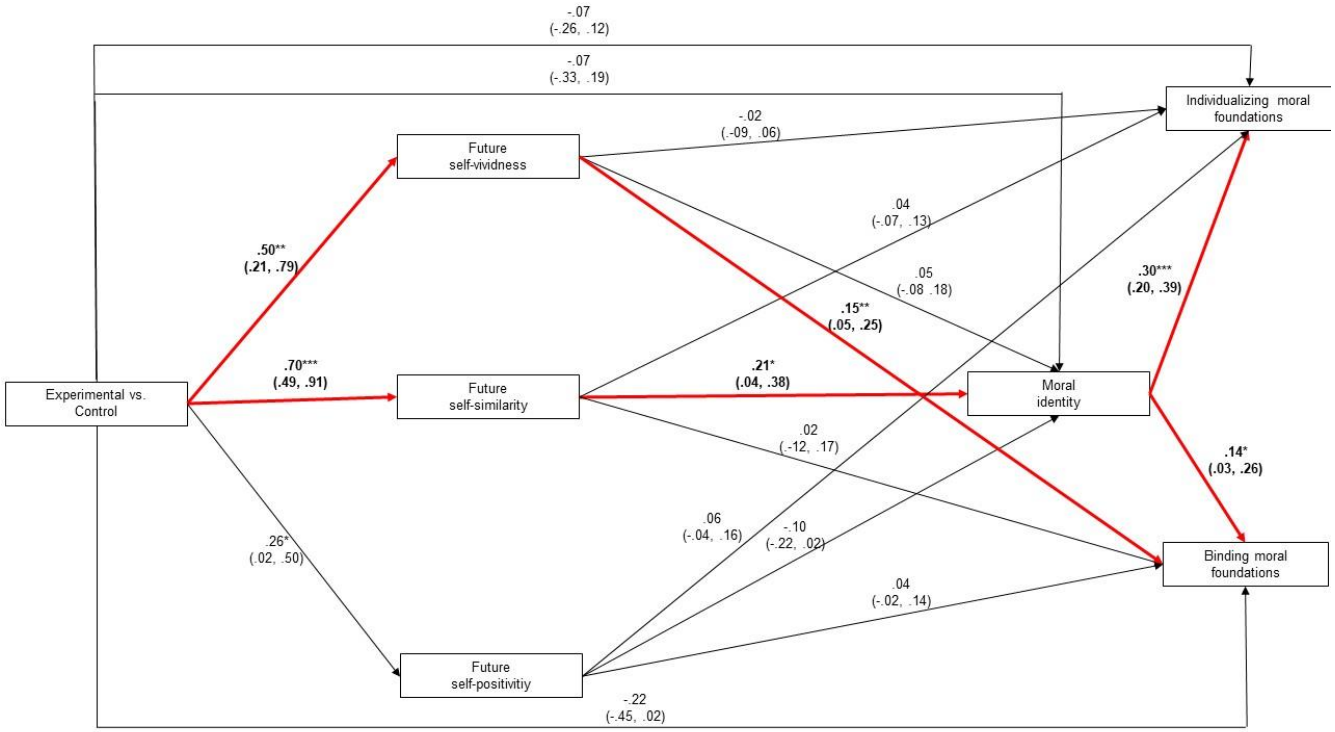
On the other hand, participants did not differ based on their MFQ scores. A one-way MANOVA revealed no multivariate group differences when considering the MFQ subscales as dependent variables, $F(2, 246) = 1.00$, $V = .01$, $p = .368$, $\eta^2_p = .01$; [.00, .03]. Univariate follow-ups corroborated this finding showing no significant manipulation effects on both the Individualizing MFs, $t(248) = .01$, $p = .994$, $d = 0.00$, 95% CI [-0.25, 0.25]); and the Binding MFs subscales, $t(248) = -1.36$, $p = .175$, $d = -0.17$, 95% CI [-0.42, 0.08].

Next, we performed a serial mediation analysis (Model 6; Hayes, 2018) with three parallel mediators in which we assessed the indirect effect of our experimental manipulation (0 = control group, 1 = experimental group) on both moral foundation clusters through three future self-continuity facets and moral identity. The significance of each indirect path was tested by following the bootstrapping

method on 10,000 bootstrapped samples. The fitted model is shown in Figure 6, while Table 6 contains all estimated indirect effects.

Figure 6.

Study 4: Results of the Serial Mediation Model with Three Parallel First Mediators (Model 6, Hayes, 2018). Significant Paths are Marked With Bolded Red Arrows.



Note. * indicates $p < .05$, ** indicates $p < .01$, *** indicates $p < .001$.

Table 7.

Study 5: Tested Indirect Effects.

Indirect effect	*b*	95% LCI	95% UCI
Condition → future self-similarity → individualizing moral foundations	.04	-.048	.118
Condition → future self-vividness → individualizing moral foundations	-.01	-.051	.031
Condition → future self-positivity → individualizing moral foundations	.02	-.006	.060

Condition → future self-similarity → binding moral foundations	.02	-.074	.126
Condition → future self-vividness → binding moral foundations	**.08**	**.026**	**.159**
Condition → future self-positivity → binding moral foundations	-.03	-.083	.001
Condition → moral identity → individualizing moral foundations	-.02	-.100	.054
Condition → moral identity → binding moral foundations	-.01	-.060	.022
Condition → future self-similarity → moral identity → individualizing moral foundations	**.04**	**.010**	**.096**
Condition → future self-similarity → moral identity → binding moral foundations	**.02**	**.003**	**.059**
Condition → future self-vividness → moral identity → individualizing moral foundations	.01	-.009	.033
Condition → future self-vividness → moral identity → binding moral foundations	.00	-.003	.021
Condition → future self-positivity → moral identity → individualizing moral foundations	**.01**	**.001**	**.040**
Condition → future self-positivity → moral identity → binding moral foundations	.01	.000	.024
Condition → individualizing moral foundations	.07	-.116	.262
Condition → binding moral foundations	.22	.024	.451

Note. b = value of the unstandardized regression coefficient. 95% LCI = lower bound of the 95% confidence interval for the estimated indirect effects. 95% UCI = upper bound of 95% confidence interval for the estimated indirect effects. Confidence intervals that do not contain zero are indicative of a significant indirect effect (bolded).

On the single mediator level, the indirect effect of our manipulation through future self-similarity, positivity, and moral identity was not significant for both moral foundation types. However, we identified a significant mediation effect on binding moral foundations through vividness. On the serial mediation level, we found that the indirect path through similarity and moral identity was significant for both individualizing and binding moral foundations. Furthermore, the serial mediation effect through positivity and moral identity was also significant for the same moral foundations cluster.

We also compared each estimated indirect path for individualizing and binding moral foundations. The indirect effect through future self-similarity and moral identity was stronger for individualizing than binding moral foundations, *b* = .023, 95% CI [.003, .067]. Furthermore, the indirect effect through vividness was stronger for binding moral foundations, *b* = -.07, 95% CI [-.169, -.024]. All other indirect effect comparisons were not significant (all 95% CIs included 0).

Study 4 has identified a positive mediator that could explain the effect of future self-similarity on individualizing MFs. Although we did not observe a significant direct effect of our manipulation, a serial mediation model suggested that the manipulation might indirectly increase individualizing and binding moral foundations by positively affecting the levels of future self-similarity and the importance of moral identity. However, that effect was stronger for individualizing pillars than their binding counterparts. Importantly, serial mediation effects through future self-vividness and positivity did not reach significance suggesting that the indirect effect of our manipulation on moral foundations was specific for the future self-similarity and moral identity path.

Unlike our previous Study 3, a significant indirect manipulation effect also emerged through the vividness component when considering binding moral foundations as the dependent variable. Since that effect was quite surprising considering the results of studies 1 and 3, we aimed to replicate and examine it further in out next studies.

2.6. Study 5: Exploring the Effect of Temporal Self Framings

Our previous studies suggested that future self-similarity increases the consideration of basic moral virtues, namely individualizing moral foundations (Studies 1 and 3), which can be explained by the importance of moral identity (Study 4). However, these prior studies compared the effects of the future self-similarity with a neutral control condition: thus, they are not likely to disentangle the influence of self-activation from that of a sense of connectedness with the future self. Indeed, prior research suggests that focusing on the present self might also facilitate greater moral concerns. Earlier work suggested that increasing participants' self-awareness successfully reduced cheating behavior (Diener, 1976) and increased donating behavior (Verplanken & Holland, 2002). Furthermore, Touré-Tillery and Light (2018) found that individuals with a coherent self-concept are more likely to behave ethically. Therefore, in this study, we planned to explore and compare the effect of two manipulations

of different temporal self-framings on individualizing MFs. Also, as an ancillary analysis, we aimed to replicate the serial mediation effect of future self-similarity and moral identity identified in the previous study.

2.6.1. Participants

We used the effect size identified from Study 3 (η^2 = .060) to conduct a power analysis for the current study. For a one-way MANOVA with three groups and two independent variables, a minimum of 204 participants is needed to detect a significant effect when power is set at .80 and α = .05. We recruited adult Italian-speaking participants registered on the online platform prolific.co and paid them $1.40 for 10 minutes of participation. After eliminating careless responses and outliers ($|z| > 3.00$) from the 232 participants that accessed the study, we were left with 213 eligible participants (N_{male} = 81, N_{female} = 128, N_{other} = 4) with an average age of 30 years (M = 29.81, SD = 11.08). All participants were randomly assigned to a future self-focused (n = 66), present self-focused (n = 54) or a general control group (n = 93). Considering our sample size, a one-way MANOVA with two dependent variables could detect a small to medium-sized effect (f^2 = .03) given power .80 and α = .05.

2.6.2. Materials and Procedure

After giving consent, participants were randomly assigned to one of the three experimental groups used in this study. Participants in the future self-focused group worked on the letter-writing task from studies 2 and 3 to increase future self-continuity levels. Participants in the present self-condition worked on a letter-writing task where they were asked to write about characteristics that describe them best in the present. In the general control group, participants were presented with the letter-counting task from studies 2 and 3. Participants in all three groups needed to spend at least two minutes working on their tasks before advancing to the next part of the study. Then, participants filled out the FCSQ

($\alpha_{similarity}$ = .75, $\alpha_{vividness}$ = .72, $\alpha_{positivity}$ = .87), the MFQ ($\alpha_{individualizing}$ = .81, $\alpha_{binding}$ = .84) and MIS-S (α = .69). The duration of the study was approximately 10 minutes.

2.6.3. Results and Discussion

Once again, we used the same software and packages for statistical analysis as in our previous experimental studies. Group descriptive statistics are presented in Table 6. We compared the groups on all three FCSQ subscales. The one-way ANOVA for the Similarity, $F(2, 210) = 9.93$, $p < .001$, $\eta^2 = .09$, 95% CI [.03, .15]; Vividness, $F(2, 210) = 5.68$, $p = .004$, $\eta^2 = .05$, 95% CI [.01, .10]; and Positivity subscale, $F(2, 210) = 3.28$, $p = .039$, $\eta^2 = .03$, 95% CI [.00, .07] was statistically significant. Table 7 shows that future self-focused participants reported greater average scores in all three subscales compared to the general control group. However, no differences were found between the two self-focused groups, although directionally the FCSQ similarity scale had higher scores in the future self-focused condition.

Table 8.

Study 5: Simple Contrast Analysis With Means and Standard Deviations of the Experimental Conditions of Both MFQ Subscales.

Variable	Group	*M*	*SD*	*t(210)*	*d (95% CI)*
Similarity	Future self-focused	5.30	.91		
	Present self-focused	5.03	.83	1.66	0.31 (-.06, 0.70)
	General control	4.67	.91	4.40***	0.69 (.36, 1.06)
Vividness	Future self-focused	4.19	1.23		
	Present self-focused	4.19	1.18	0.00	0.00 (-0.39, 0.34)
	General control	3.59	1.40	2.89**	0.46 (0.16, 0.78)
Positivity	Future self-focused	5.37	.97		

	Present self-focused	5.23	1.22	0.72	0.13 (-0.25, 0.48)
	General control	4.94	1.03	2.48*	0.43 (0.08, 0.79)
Individualizing MF	Future self-focused	5.80	.67		
	Present self-focused	5.65	.83	1.08	0.20 (-0.18, 0.56)
	General control	5.40	.74	3.36***	0.57 (0.23, 0.92)
Binding MF	Future self-focused	4.26	.91		
	Present self-focused	4.03	1.09	1.25	0.22 (-0.14, 0.60)
	General control	3.84	.94	2.66**	0.45 (0.14, 0.80)
Moral identity	Future self-focused	5.73	.95		
	Present self-focused	5.47	1.01	1.50	0.26 (-0.11, 0.66)
	General control	5.34	.89	2.57*	0.42 (0.10, 0.77)

Note. M and SD represent the means and standard deviations. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$ Degrees of freedom for the t-test are specified in brackets. Future self-focused participants represented the reference group in both simple contrasts analyses.

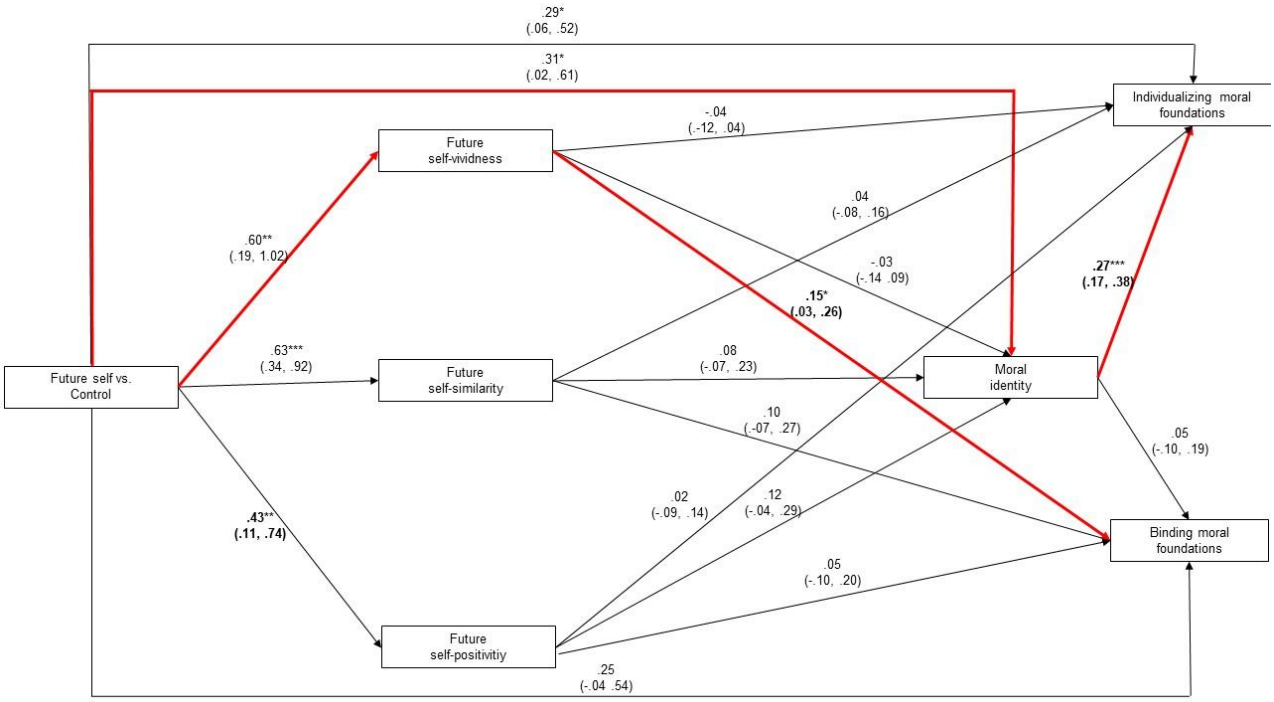
A one-way MANOVA indicated significant group differences on the linear combination of both MFQ scales, $F(2, 210) = 3.73$, $V = .07$, $p = .005$, $\eta^2_p = .03$, 90% CI [.01, .06]. To explore these differences further, we conducted two separate univariate ANOVAs. The groups differed on both the individualizing MF, $F(2, 210) = 5.91$, $p = .003$, $\eta^2 = .05$, 95% CI [.01, .12]; and the binding MF subscales, $F(2, 210) = 3.53$, $p = .031$, $\eta^2 = .03$, 95% CI [.00, .09]. As shown in Table 7, a simple contrasts analysis suggested that future self-focused participants differed from control participants on individualizing and binding MFQ subscales. However, they were not statistically different from their present self-focused counterparts on both subscales, although also in this case the scores were directionally higher in the future self-focused condition.

The groups also differed on the MIS-S, $F(2, 210) = 3.31$, $p = .039$, $\eta^2 = .03$, 95% CI [.00, .08]. The future self-focused group reported higher scores than control participants. On the other hand, we found no significant differences between future self and present self-focused participants (see Table 7).

Finally, we conducted a serial mediation analysis with multi-categorical predictors (Model 6; Hayes, 2018) to replicate the indirect effect via future self-similarity and moral identity. Two dummy-coded variables were created for this purpose. The first one represented the future-focused group versus the control group (0 = control group, 1 = future-focused group), while the second dummy variable represented future-focused participants versus their present-focused equivalents (0 = present-focused group, 1 = future-focused group). Our model included future self-vividness and positivity as two additional parallel mediators in line with our previous study. The estimated mediation model is shown in Figure 7. Table 8 contains the estimated indirect effect of dummy variable 1 and dummy variable 2 on both individualizing and binding moral foundations.

Figure 7.

Study 5: Results of the Serial Mediation Model with Three Parallel First Mediators (Model 6, Hayes, 2018). Significant Paths are Marked With Bolded Red Arrows.



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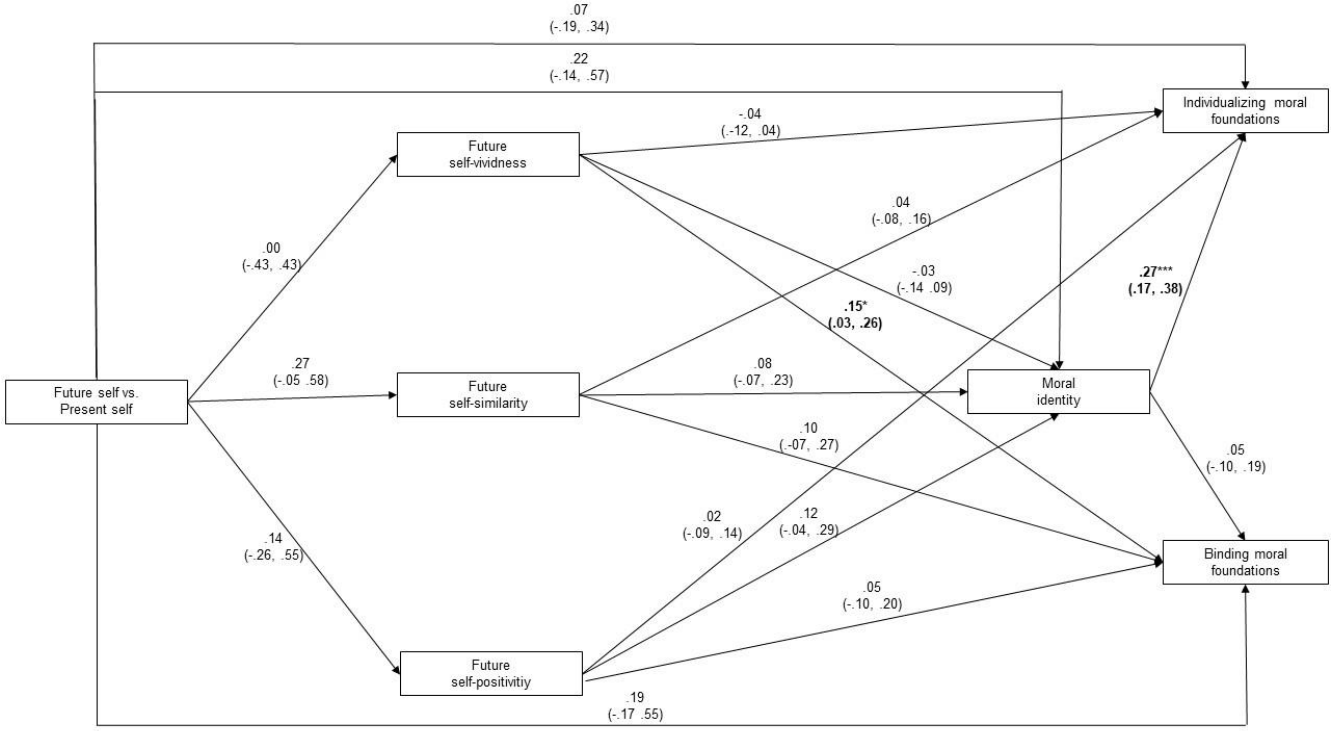


Note. * indicates $p < .05$, ** indicates $p < .01$, *** indicates $p < .001$.

Table 9.

Study 6: Tested Indirect Effects.

Indirect effect	*b*	95% LCI	95% UCI
Future self vs. Control → future self-similarity → individualizing moral foundations	0.02	-0.056	0.106
Future self vs. Control → future self-vividness → individualizing moral foundations	-0.03	-0.086	0.024
Future self vs. Control → future self-positivity → individualizing moral foundations	0.01	-0.048	0.057
Future self vs. Control → future self-similarity → binding moral foundations	0.05	-0.068	0.161
Future self vs. Control → future self-vividness → binding moral foundations	**0.09**	**0.011**	**0.195**
Future self vs. Control → future self-positivity → binding moral foundations	0.02	-0.045	0.095
Future self vs. Control → moral identity → individualizing moral foundations	**0.09**	**0.001**	**0.022**
Future self vs. Control → moral identity → binding moral foundations	0.01	-0.034	0.073
Future self vs. Control → future self-similarity → moral identity → individualizing moral foundations	0.01	-0.012	0.046
Future self vs. Control → future self-similarity → moral identity → binding moral foundations	0	-0.006	0.008
Future self vs. Control → future self-vividness → moral identity → individualizing moral foundations	0	-0.027	0.015
Future self vs. Control → future self-vividness → moral identity → binding moral foundations	0	-0.008	0.013
Future self vs. Control → future self-positivity → moral identity → individualizing moral foundations	0.01	-0.005	0.041
Future vs. Control → individualizing moral foundations	0.29	0.063	0.531
Future vs. Control → binding moral foundations	0.25	0.049	0.531
Future self vs. Control → future self-positivity → moral identity → binding moral foundations	0	-0.006	0.008
Future self vs. Present Self → future self-similarity → individualizing moral foundations	0.01	-0.027	0.058
Future self vs. Present Self → future self-vividness → individualizing moral foundations	0.00	-0.029	0.028
Future self vs. Present Self → future self-positivity → individualizing moral foundations	0.00	-0.031	0.030
Future self vs. Present Self → future self-similarity → binding moral foundations	0.02	-0.030	0.094
Future self vs. Present Self → future self-vividness → binding moral foundations	0.00	-0.073	0.069
Future self vs. Present Self → future self-positivity → binding moral foundations	0.01	-0.030	0.053
Future self vs. Present Self → moral identity → individualizing moral foundations	0.06	-0.038	0.166
Future self vs. Present Self → moral identity → binding moral foundations	0.01	-0.029	0.064
Future self vs. Present Self → future self-similarity → moral identity → individualizing moral foundations	0.01	-0.005	0.026
Future self vs. Present Self → future self-similarity → moral identity → binding moral foundations	0.00	-0.003	0.010
Future self vs. Present Self → future self-vividness → moral identity → individualizing moral foundations	0.00	-0.008	0.009
Future self vs. Present Self → future self-vividness → moral identity → binding moral foundations	0.00	-0.002	0.003
Future self vs. Present Self → future self-positivity → moral identity → individualizing moral foundations	0.00	-0.009	0.027
Future self vs. Present Self → future self-positivity → moral identity → binding moral foundations	0.00	-0.005	0.006
Future vs. Control → individualizing moral foundations	0.07	-0.193	0.338
Future vs. Control → binding moral foundations	0.19	-0.179	0.544

Note. *b* = value of the unstandardized regression coefficient. 95% LCI = lower bound of the 95% confidence interval for the estimated indirect effects. 95% UCI = upper bound of 95% confidence interval for the estimated indirect effects. Confidence intervals that do not contain zero are indicative of a significant indirect effect (bolded).

We found that the indirect effects of all three future self-continuity facets individually were not significant when considering the differences between the effect of the first dummy variable on both individualizing and binding moral foundations (all 95% CIs included zero). Once again, we found an indirect effect through vividness on binding moral foundations. This component did not significantly mediate the effect of dummy variable 2 on individualizing moral foundations. On the other hand, moral identity individually mediated the effect of the same variable on individualizing but not on binding moral foundations. Additionally, we could not replicate the serial mediation effects of future self-similarity and moral identity identified in our previous study. The 95% confidence intervals of all three estimated serial indirect effects through future self-continuity facets as the first mediators and moral identity as the second included zero when considering both moral foundations as the dependent variable. In the case of future vs. present self condition differences (dummy variable 2), we could not observe any significant indirect effects.

When comparing the indirect effects from Table 8 on individualizing and binding moral foundations, we identified that the effect of dummy variable 1 through moral identity was stronger on individualizing than on binding moral foundations, *b* = .07, 95% CI [.004, .152]. Other indirect effects did not differ (all Cis included zero).

In Study 5, participants thought about the similarities they might share with their future selves, showed greater consideration of individualizing moral foundations than participants who worked on a general cognitive task. Furthermore, we have identified a significant mediating effect of moral identity centrality. Higher scores in the individualizing moral foundations subscale of future self-focused

participants versus their control counterparts could be explained by the greater perceived importance of moral identity. However, in contrast with our previous findings, we could not identify a positive effect of future self-similarity on moral identity. The lack of a positive relationship between those two variables contributed to our failure to replicate a serial indirect effect of our manipulation through future self-similarity and moral identity.

Additionally, future self and control condition participants also differed in binding moral foundations, with participants focusing on the future self scoring higher on the binding moral foundations subscale. As in Study 4, that effect was mediated by higher scores in the vividness component of future self-continuity. Although the same indirect effect was negative when considering individualizing moral foundations, the magnitude mediation through moral identity did not differ based on moral foundations cluster.

Another implication of Study 5 is that a similar effect of a future self-similarity manipulation is achieved when asking participants to think about their present characteristics. The present-self-focused group reported non significantly smaller levels of all three future self-continuity facets and moral foundations, and all estimated indirect effects of future self- and present self-focused group differences were not statistically significant. Unexpectedly, focusing on the present self characteristics might be an alternative path to increase future self-similarity and, by proxy moral identity and moral foundations importance. We will return to this matter in the Discussion Section 2.10.1. Additionally, further clarify these inconclusive results, we have decided to run an additional study to separate the effect of self and temporal framings and investigate whether this unexpected positive effect of our present-self focus still replicates.

2.7. Study 6: Disentangling Between Time and Self-Framing Effects

Study 5 showcased that focusing on the present self might similarly affect perceived future self-continuity and moral intuitions. Furthermore, while we could identify a significant indirect effect of moral identity, Study 5 failed to replicate the indirect effect through both future self-similarity and moral identity. To further explore these findings, we conducted Study 6, intending to study the interplay between two different temporal and self-framings and their effect on future self-continuity, moral identity, and moral foundations. Our aim in this study was to simultaneously manipulate the temporal focus of participants (thinking about the future vs. thinking about the present) and the self-focus (thinking about self-characteristics versus thinking about characteristics of a neutral object). Building on the previous Study 5, a factorial design allowed us to better understand whether focusing on the self would be enough to increase future self-continuity or if the projection to the future is also needed. As in the previous study, we have included moral identity to replicate the significant mediational effects identified in the previous two studies.

2.7.1. Participants

We relied on the online platform prolific.co to recruit adult Italian-speaking participants. A total of 224 participants accessed the online study. We paid them $1.40 for 10 minutes of participation. After removing careless responses on the basis of the SRSI, 216 valid participants (N_{male} = 81, N_{female} = 132, N_{other} = 3) with an average age of 27 (M = 27.21, SD = 9.82) remained. A sensitivity analysis revealed that with our sample size, a two-way ANOVA could detect a small to medium-sized effect (f = .19) when power is set at .80 and α = .05. All participants were randomly assigned to either a future self-focused (n = 61), present self-focused (n = 48), future neutral focused (n = 52), and a present neutral focused (n = 55) group.

2.7.2. Materials and Procedure

Our study followed a 2 (self-frame: self vs. neutral) x 2 (temporal frame: future vs. present) design with both factors varying between participants. After giving consent, participants started working on their respective experimental tasks. Participants focusing on the future self underwent the letter-writing task from our previous studies. The present self-focused group worked on the same writing task from Study 4 to increase their attention to their core characteristics in the present. Participants in the neutral future-focused and the neutral present-focused group wrote about a non-self-related stimulus (public transport) as they imagined it in the future or its characteristics in the present, respectively. All participants needed to work on their tasks for at least two minutes to advance further. In the second part of the study, participants were presented with the FSCQ ($\alpha_{\text{similarity}}$ = .75, $\alpha_{\text{vividness}}$ = .76, $\alpha_{\text{vividness}}$ = .86), MFQ ($\alpha_{\text{individualizing}}$ = .75, α_{binding} = .80), and MIS-S (α = .74).

2.7.3. Results and Discussion

We carried out our analysis using the same software and packages implemented in our previous studies. Table 9 contains the relevant descriptive statistics for our study variables by temporal (present vs. future) and self (self vs. neutral) focus conditions. A two-way ANOVA revealed a significant main effect for the self-frame on FCSQ Similarity, $F(1, 212) = 10.18$, $p = .002$, $\eta^2_p = .05$, 95% CI [.01, .11]. Participants focusing on the self reported higher levels of the future self-similarity than participants thinking about the neutral stimulus. However, we detected no significant main effect of temporal frame, $F(1, 212) = 0.58$, $p = .449$, $\eta^2_p = .00$, 95% CI [.00, .03]; nor a significant interaction effect, $F(1, 210) = 1.53$, $p = .218$, $\eta^2_p = .01$, 95% CI [.00, .05]. Despite the not significant interactions, it might be worth mentioning that once again, as in previous studies, the higher scores for the FCSQ scale were detected in the future self-focused condition. Furthermore, we observed a significant main effect of temporal frame, $F(1, 212) = 4.08$, $p = .045$, $\eta^2_p = .02$, 95% CI [.00, .07]; and self frame, $F(1, 212) =$

4.02, p = .046, η^2_p = .02, 95% CI [.00, .07]; on FCSQ Positive Affect. However, the magnitude of those effects was rather small. The interaction effect was not significant, F(1, 212) = 3.15, p = .078, η^2_p = .01, 95% CI [.00, .06]. For FCSQ Vividness, the main effect of temporal frame, F(1, 212) = 0.73, p = .393, η^2_p = .00, 95% CI [.00, .04]; self frame, F(1, 212) = 1.31, p = .253, η^2_p = .01, 95% CI [.00, .04]; and the interaction; F(1, 212) = 0.00, p = .960, η^2_p = .00, 95% CI [.00, .040]; was not significant.

Table 10.

Study 6: Means and Standard Deviations of the Study Variables as a Function of the Temporal and Self-Frames.

		Similarity		**Vividness**		**Positivity**		**Individualizing moral foundations**		**Binding moral foundations**		**Moral identity**	
Temporal frame	Self-frame	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Future	Self	5.00	.80	3.81	1.29	5.28	.80	5.52	.70	3.85	.82	5.70	.95
	Neutral	4.38	1.31	3.60	1.55	4.70	1.37	5.60	.82	3.82	.95	5.57	1.02
Present	Self	4.76	1.05	3.67	1.28	4.71	1.16	5.62	.69	3.97	.78	5.68	.83
	Neutral	4.49	.97	3.45	1.38	4.68	1.08	5.62	.77	4.11	.79	5.70	.95

Note. M and SD represent the means and standard deviations.

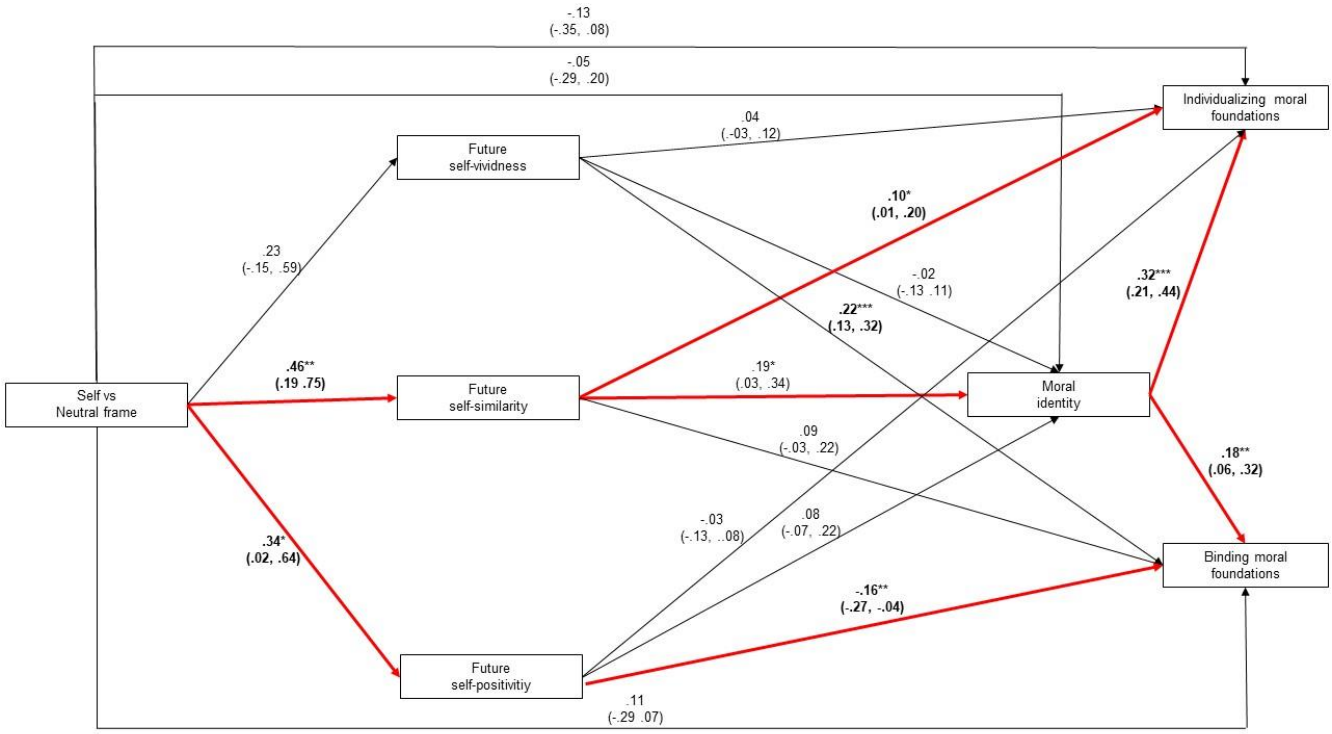
Next, we conducted a two-way MANOVA to explore the effect of our manipulation on both MFQ scales. The results revealed no significant effect of self-frame, F(2, 211) = 0.19, V = .00, p = .824, η^2 = .00, 95% CI [.00, .02]; temporal frame, F(2, 211) = 1.47, V = .01, p = .231, η^2_p = .01, 95% CI [.00, .05]; and the interaction, F(2, 211) = 0.48, V = .00, p = .617, η^2 = .00, 95% CI [.00, .03].

Univariate follow-ups also revealed no significant effects for either individualizing moral or binding moral foundations (all *p*s > .102). Finally, we observed no significant effects on MIS-S (all *p*s > .555).

Our manipulation check showed that only the main effect of the self-frame was relevant in increasing future self-similarity levels. In that regard, we computed a serial mediation model (Model 6; Hayes, 2018) to study the indirect effect of the self-frame (1 = self-focus, 0 = neutral focus) through future self-similarity and moral identity on individualizing MFs. The three future self-continuity facets served once again as the first set of parallel mediators, while moral identity played the role of the second mediator. We assessed the significance of the indirect effects by following the bootstrapping method with 10,000 bootstrapped samples. The model is shown in Figure 8. Table 10 presents all estimated indirect effects.

Figure 8.

Study 6: Results of the Serial Mediation Model with Three Parallel First Mediators (Model 6, Hayes, 2018). Significant Paths are Marked With Bolded Red Arrows.



Note. * indicates $p < .05$, ** indicates $p < .01$, *** indicates $p < .001$.

Table 11.

Study 6: Tested Indirect Effects.

Indirect effect	*b*	95% LCI	95% UCI
Self vs. neutral frame → future self-similarity → individualizing moral foundations	**.05**	**.002**	**.119**
Self vs. neutral frame → future self-vividness → individualizing moral foundations	.01	-.006	.056
Self vs. neutral frame → future self-positivity → individualizing moral foundations	-.01	-.064	.022
Self vs. neutral frame → future self-similarity → binding moral foundations	.04	-.009	.118
Self vs. neutral frame → future self-vividness → binding moral foundations	.05	-.026	.146
Self vs. neutral frame → future self-positivity → binding moral foundations	-.05	-.138	-.006
Self vs. neutral frame → moral identity → individualizing moral foundations	-.02	-.100	.063
Self vs. neutral frame → moral identity → binding moral foundations	-.01	-.071	.032
Self vs. neutral frame → future self-similarity → moral identity → individualizing moral foundations	**.03**	**.005**	**.076**
Self vs. neutral frame → future self-similarity → moral identity → binding moral foundations	**.02**	**.002**	**.053**
Self vs. neutral frame → future self-vividness → moral identity → individualizing moral foundations	.00	-.018	.007

Self vs. neutral frame → future self-vividness → moral identity → binding moral foundations	.00	-.011	.003
Self vs. neutral frame → future self-positivity → moral identity → individualizing moral foundations	.01	-.004	.039
Self vs. neutral frame → future self-positivity → moral identity → binding moral foundations	.01	-.002	.026
Self vs. neutral frame → individualizing moral foundations	-.11	-.285	.072
Self vs. neutral frame → binding moral foundations	-.13	-.346	.086

Note. b = value of the unstandardized regression coefficient. 95% LCI = lower bound of the 95% confidence interval for the estimated indirect effects. 95% UCI = upper bound of 95% confidence interval for the estimated indirect effects. Confidence intervals that do not contain zero are indicative of a significant indirect effect (bolded).

The effect of the self-frame achieved its indirect effect through future self-similarity and serially through future self-similarity and moral identity. Furthermore, the self-frame condition had a negative indirect effect on binding moral foundations through future self-positivity. Finally, we observed a serial mediational effect of the condition on binding moral foundations through the similarity component and moral identity. The confidence intervals of other estimated indirect effects contained zero.

When comparing the magnitudes of the estimated mediation effects, we found that the serial mediation effect through future self-similarity and moral identity was stronger on individualizing than binding foundations, *b* = .01, 95% CI [.001, .043)]. Other indirect effects did not differ between the foundation groups (all CIs included zero)

To summarize, Study 5 built upon Study 4 by implying that focusing on the self seems more relevant for increasing future self-continuity levels than a future frame. While we did not identify a direct effect of our manipulation on individualizing MFs, Study 5 suggests that self-framing indirectly affects moral foundation considerations through higher levels of future self-similarity and moral identity centrality. That effect was stronger on individualizing compared to binding moral foundations. Once again, the described pattern was not replicated when considering vividness and positivity.

However, unlike in our previous studies, we observed an indirect effect of self-frame on binding moral foundations through lower levels of future self-positivity.

2.8. Mini Meta-Analyses of Studies 3-6

To further clarify the effects identified in our four experimental studies, we have followed on recent practice of running a mini meta-analysis to integrate the results of separate studies (Goh et al., 2016). All analyses were done inside the R statistical software (R Core Team, 2020). The direct effects meta-analysis was conducted using the meta package (Balduzzi et al., 2019), and the pooled indirect effects were studied with the help of the metaSEM package (Cheung, 2015).

2.8.1. Direct Effects Mini Meta-Analysis

Since a significant direct effect of our manipulation on individualizing moral foundations was established only in Studies 2 and 4, we considered it worthwhile to conduct an internal meta-analysis to establish how robust this effect is across our four experimental studies. We have included effect sizes from direct comparisons reported in Studies 3-6. Because our manipulations somewhat differed across the studies, we ran a random-effects model to pool effect sizes. The meta-analysis revealed that the direct effect of our manipulation was not significant for both individualizing (d = 0.24, 95% CI [-0.28, 0.73], t = 1.41, p = .253) and binding moral foundations (d = .08, 95% CI [-.36, .52], t = .57, p = .609).

2.8.2. Indirect Effects Mini Meta-Analysis

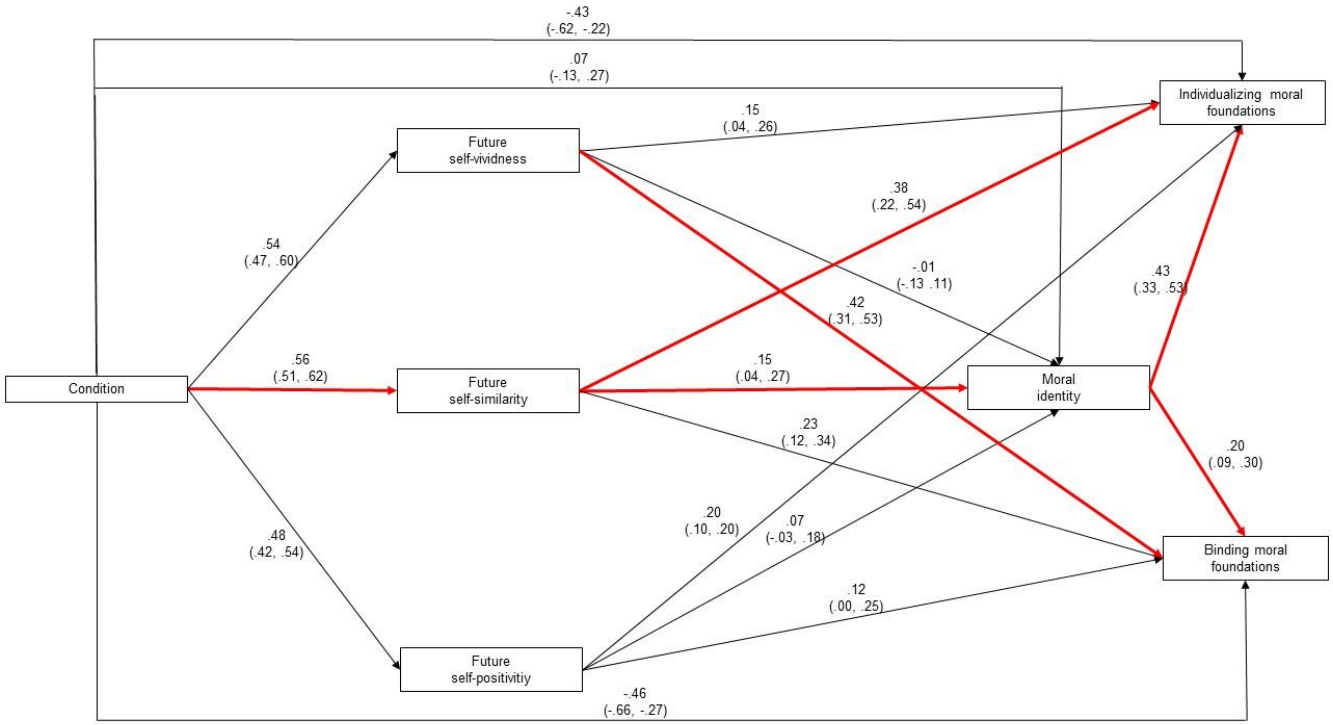
In studies 4 and 6, we have found a significant effect of our manipulation through both future self-similarity and moral identity on individualizing moral foundation. However, in studies 3 and 6, a significant indirect effect through future self-similarity also emerged, while in Study 5, moral identity was the sole significant mediator of the experimental effect. Finally, in Study 3, we also observed a serial indirect effect through future self-positivity and moral identity.

When considering binding moral foundations, we found a serial mediation effect through future self-similarity and moral identity in studies 3 and 6. A mediation effect through vividness emerged in studies 3-4, while a (negative) indirect effect through positivity was found in Study 6. These mixed findings call for an internal meta-analysis to identify robust indirect effect patterns across all studies.

We included all effect sizes reported in Studies 3-6. Accordingly, we tested the full mediation model with three parallel first mediators (similarity, vividness, and positivity), and moral identity as the second mediator. Condition and moral foundations served as the independent and dependent variables, respectively. Once again, we ran a random-effects model due to differences between our experimental designs. Finally, we conducted the internal meta-analysis with the TSSEM approach (Cheung, 2014) since it is more recommended due to its flexibility and optimal statistical performance (Cheung, 2015). Before conducting the meta-analysis, all effect sizes were converted to Pearson's *r* to form a matrix of correlational indices for each study. We used the bootstrapping method (10,000 bootstrapped samples) to test the significance of each regression parameter and estimated indirect path. The meta-analysis mediation model is presented in Figure 9. The estimated indirect effects are shown in Table 11.

Figure 9.

Meta-Analysis: Results of the Serial Mediation Model with Three Parallel First Mediators (Model 6, Hayes, 2018). Significant Paths are Marked With Bolded Red Arrows.



We observed a robust positive effect of condition on all three future self-continuity facets. Building upon our direct effects meta-analysis, the condition did not affect moral identity, individualizing, and binding moral foundations. Future self-similarity, but not other future self-continuity facets, had a robust positive effect on moral identity. All three future self-continuity facets were positively related to individualizing, while only similarity and vividness positively affected the binding moral foundations.

Table 12.

Meta-Analysis: Tested Indirect Effects.

Indirect effect	*b*	95% LCI	95% UCI
Condition → future self-similarity → individualizing moral foundations	**.22**	**.123**	**.319**
Condition → future self-vividness → individualizing moral foundations	.08	-.021	.150
Condition → future self-positivity → individualizing moral foundations	.09	-.044	.147
Condition → future self-similarity → binding moral foundations	**.13**	**.066**	**.202**

Condition → future self-vividness → binding moral foundations	**.23**	**.158**	**.309**
Condition → future self-positivity → binding moral foundations	.06	-.001	.124
Condition → moral identity → individualizing moral foundations	.03	-.049	.131
Condition → moral identity → binding moral foundations	.01	-.021	.072
Condition → future self-similarity → moral identity → individualizing moral foundations	**.04**	**.010**	**.064**
Condition → future self-similarity → moral identity → binding moral foundations	**.02**	**.005**	**.033**
Condition → future self-vividness → moral identity → individualizing moral foundations	.00	-.035	.024
Condition → future self-vividness → moral identity → binding moral foundations	.00	-.019	.011
Condition → future self-positivity → moral identity → individualizing moral foundations	.02	-.008	.036
Condition → future self-positivity → moral identity → binding moral foundations	.01	-.004	.018
Condition → individualizing moral foundations	-.43	-.616	.222
Condition → binding moral foundations	-.47	-.656	.267

Note. b = value of the unstandardized regression coefficient. 95% LCI = lower bound of the 95% confidence interval for the estimated indirect effects. 95% UCI = upper bound of 95% confidence interval for the estimated indirect effects. Confidence intervals that do not contain zero are indicative of a significant indirect effect (bolded).

The pooled indirect effects on individualizing moral foundations through future self-similarity, positivity, and serially through future self-similarity and moral identity were significant. On the other hand, across our experimental studies, condition indirectly affected binding moral virtues through greater levels of the similarity and vividness components and serially through similarity and moral identity. The pooled confidence intervals of other mediation effects included zero.

We also compared the magnitude of the estimated indirect effects on individualizing and binding moral foundations. The effect of future self-similarity and future self-similarity and moral identity was stronger for individualizing than binding moral foundations. On the other hand, the mediation effect of vividness was stronger for binding than for individualizing pillars. Although the results suggested a robust indirect effect through positivity on individualizing moral foundations, it did not differ significantly from the same effect on binding moral foundations. As expected, other indirect effects that were not robust across the experimental studies did not differ.

2.9. Study 7: Exploring the effect of future self-similarity on individualizing moral foundations through experience sampling

We conducted the previously described set of six studies to go beyond the narrow operational definitions of specific moral transgressions (e.g., lying) and study the effect of future self-similarity on moral identity using the MFT framework in defining moral judgments. While our studies suggest that future self-similarity might have an important role in increasing moral concerns, they were still plagued with issues in traditional psychological research. First, we relied only on self-reports when measuring study-relevant constructs. Second, our studies were cross-sectional, which made us unable to study our hypothesized effects over time. Third, our research did not allow us to extend our findings to behavior motivated by or at least related to moral foundations. Therefore, we aimed to explore the role of future self-continuity in predicting the occurrence of everyday moral actions. To achieve this goal, as mentioned in Chapter 1, we employed an experience sampling research design.

2.9.1. Participants

All adult participants fluent in Italian and 18 years old were eligible for this study. Participants were invited to join the study by sharing the anonymous survey link on social media or via the University's participants pool system in exchange for course credits. We planned no compensation other than course credits for students. A total of 164 participants agreed to take part in our study. All participants completed the baseline survey and advanced through the Ecological Momentary Assessment (EMA) phase (see below). Following previously set exclusion criteria, we excluded 11 cases that completed less than 20% (< 7) of daily surveys leaving us with 151 participants whose data we included in the analysis (N_{male} = 27, N_{female} = 123, N_{other} = 1, M_{age} = 22.77, SD_{age} = 4.84). Furthermore, 104 participants completed between 20% and 75% (7-26), while 49 participants filled out more than 75% (> 26) EMA Surveys. The average completion rate for our sample was 77.14%.

2.9.2. Procedure and Materials

By following the research design of several experience sampling studies temporal fluctuations of psychological constructs (e.g., Hoffman et al., 2014, 2018; Myin-Germeys et al., 2001; Pe et al., 2013; for a meta-analysis on experience sampling studies characteristics see Wrzus & Neubauer, 2022) our study lasted for seven consecutive days where we collected data from the participants 5 times a day in 12 hours (between 9 a.m. and 9 p.m.) for 7 days. Before conducting the study, we informed participants about our general aims and hypotheses, study length, and assignments and asked them for consent. We collected participants' demographic information about gender, age, nationality, occupation, and educational level, as well as trait levels of future self-similarity (Future Self-Similarity Scale [FSSS]; Sokol & Serper, 2020) and moral foundations (the short Moral Foundations Scale [MFQ20]; Graham et al., 2009) during baseline assessment. During the daily assessment points, participants were asked to report whether they performed a moral act between the two measurement periods[1]. If participants responded affirmatively, they were asked to describe the moral event briefly. Following Hoffman and colleagues (2014), two independent raters coded all reported moral events for their moral foundations' type (individualizing and binding). Reported moral actions were coded with 1 (e.g., we coded the response ‘’I helped an old lady in carrying groceries’’ as *1*), while the absence of such action was coded with 0. Similarly, reports about binding moral actions were coded as 1 and absences as 0 (e.g., we coded the response ‘’I showed loyalty and defended my group of friends when somebody spoke ill of them’’ as *1*). Finally, participants filled out the following measures: the state versions of the short Moral Foundations Scale ([MFQ20]; Graham et al., 2009) and the Future Self-Similarity Scale ([FSSS], Sokol & Serper, 2020). A description of the study instruments measures follows.

[1] Although we are aware that one does not need to be an agent to experience a moral event (Hoffman et al., 2014), here, due to our hypotheses, we are focusing explicitly on performed moral behavior. Theoretically, due to the need to maintain a positive (and moral) self (Hershfield et al., 2012), future self-continuity should motivate individuals to behave morally, but should not increase the tendency to experience and notice moral behavior *per se*.

2.9.2.1. Baseline (trail-level) measures

Future Self-Similarity Scale (FSSS). We used the Future Self-Similarity Scale (FSSS) originally developed by Sokol and Serper (2020), to measure future self-continuity. In this 4-item measure (e.g., participants are asked to indicate their level of agreement/disagreement with the items on a seven-point Likert scale (1 = *completely different/not at all*, 7 = *exactly the same/perfectly*). Higher scores indicate higher future self-continuity, while participants with lower scores have a lower sense of connection with the future self.

The Short Moral Foundations Questionnaire (MFQ20). The questionnaire is composed of two 10-item subscales. In the Relevance subscale, participants are asked to determine how much each consideration presented in the items is relevant when making moral judgments. The answers are on a 7-point Likert scale (1 = *not relevant at all*, 7 = *extremely relevant*). The Judgement subscale asks the participants to indicate their level of agreement/disagreement with the items on a 7-point Likert scale (1 = *strongly agree*, 7 = *strongly disagree*). Responses in both subscales can be combined to form mean scores for the moral foundations: harm (6 items), fairness (6 items), loyalty (6 items), authority (6 items), and sanctity (6 items). By following Graham and colleagues (2011), we have formed participants' average scores on the individualizing foundations (harm and fairness items) and binding foundations (loyalty, authority, and purity items) subscales.

2.9.2.2. State-level Measures

The State Version Future Self-Similarity Scale (FSSS-S). Participants went through the same four items from the original measure and were asked to indicate their level of agreement/disagreement with them on a 7-point Likert scale (1 = *completely different/not at all*, 7 = *exactly the same/perfectly*). To measure future self-continuity at the state level, we modified the instructions of the original measure

to emphasize that we are interested in participants' current feelings of similarity with their future self (e.g., How similar are you *at this exact moment* to what you will be like 10 years from now?)

The State Version of the Moral Foundations Relevance Scale (MFQ20-S). Participants read the same items from the two subscales of the original MFQ20. The instructions were modified to prompt participants to think about their experiences between two measurement prompts (*Between the two assessment points*, when you thought something was right or wrong, to what extent are the following considerations relevant to your thinking?). Once again, we formed participants' scores on the Individualizing and Binding moral foundations subscale at each assessment period.

2.9.3. Analysis Plan

All analyses were conducted in the R statistical software (R Core Team, 2021) by using the lme4 (Bates et al., 2015), lmerTest (Kuznetsova et al., 2020), performance (Lüdecke et al., 2021), and mediation (Tingley et al., 2014) packages.

To separate ESM measures into between-participants (deviations for participant-level means) and between-person (deviations for the group-level mean), we applied two centering procedures: participant-level mean and grand mean centering (Wang & Maxwell, 2015). Trait-level predictors were grand mean centered. As part of our preliminary analyses, we have assessed interrater reliability concerning moral action coding by examining the levels of the κ coefficient. Furthermore, we calculated the descriptive statistics, internal consistency, and intraclass correlation coefficients (only for ESM measures) for all study variables. Finally, we developed four random intercept and slope models to assess initial relations between ESM measures on moral foundations and moral actions before disentangling between within-participant and between-participants effects (see below).

To study the effect of EMA-reported future self-similarity on individualizing moral foundations, we adopted a Multilevel Hierarchical Linear Modelling (MHLM) analytic strategy. We

planned to develop three nested models alongside a baseline, intercept-only model controlling for measurement day as a covariate. We included the within-participant part of future self-similarity levels in the first model. The second model included the between-participants part of future self- similarity scores. Finally, we introduced the trait-level scores of future self- similarity and individualizing moral foundations in the third model. All described models were compared to assess whether adding additional variables in each step improves model fit. We implemented the same analysis plan for binding moral foundations as the dependent variable to examine whether the effect of future self-continuity is specific only to concerns about harm and justice. This strategy allowed us to disentangle between the person-centered and grand mean-centered parts of future self- similarity measured using ESM and control for trait levels of both future self- similarity and moral foundations.

We adopted a Multilevel Hierarchical General Linear Modelling (MHGLM) analytic strategy to study the effects of perceived future self-continuity on reported individualizing moral actions. Since individualizing moral actions were conceptualized as dichotomous variables (1 = moral action reported; 0 = moral action not reported), we developed four nested models alongside an intercept-only model, once again controlling for measurement day. We included the within-participant parts of future self- similarity and individualizing moral foundations in the first and second models. In the third and fourth models, we added the between-participant parts of both dependent variables in each step. The fourth model added trait-level scores of future self- similarity and individualizing moral foundations. Once again, we compared the models to assess how adding the mentioned predictors at each step improves model fit. We adopted the same analytic strategy for binding moral actions.

Before running the hierarchical regressions, we compared four models to understand how to include time expressed in measurement days (1-7): a) an intercept-only model (baseline model), b) a random-intercept model containing the fixed effect of day (Model 1), c) a random-intercept model with

an uncorrelated random slope of day (Model 2), and d) a random-intercept model with an uncorrelated random slope of day (Model 3). All models were compared based on their Aikake (AIC) and Bayesian (BIC) Criterion values (the lower the values, the better the model fit), and in case of no significant differences, we interpreted the more parsimonious solution (West et al., 2010). Table 12 shows model fit indices for models predicting our planned dependent variables: individualizing and binding moral foundations and actions. Inferring from AIC and BIC values, Models 2 and 3 showed the best fit, and we opted for the simpler Model 2 when running our analysis. Finally, when including the fixed effects of within-participant-centered variables, we also included random slope effects of the same variables. In other words, all other models bar the baseline were random intercept and slope models.

Table 13.

Model Fit Indices for a) an Intercept-Only Model (Baseline Model), b) a Random-Intercept Model Containing the Fixed Effect of Day (Model 1), c) a Random-Intercept Model With an Uncorrelated Random Slope of Day (Model 2), and d) a Random-Intercept Model with an Uncorrelated Random Slope of Day (Model 3) When Considering Four Dependent Variables of This Study,

Individualizing moral foundations							
Baseline model		Model 1		Model 2		Model 3	
AIC	BIC	AIC	BIC	AIC	BIC	AIC	BIC
12,492.48	12,511.64	12,463.15	12,488.69	12,108.84	12,140.76	12,110.54	12,148.84
Binding moral foundations							
Baseline model		Model 1		Model 2		Model 3	
AIC	BIC	AIC	BIC	AIC	BIC	AIC	BIC
9647.63	9666.78	9610.99	9636.53	8890.13	8922.05	8887.64	8925.94
Individualizing moral actions							
Baseline model		Model 1		Model 2		Model 3	
AIC	BIC	AIC	BIC	AIC	BIC	AIC	BIC
3,209.35	3,322.12	3,157.89	3,117.05	3,136.32	3,161.86	3,137.27	3,169.19
Binding moral actions							
Baseline model		Model 1		Model 2		Model 3	

AIC	BIC	AIC	BIC	AIC	BIC	AIC	BIC
2,024.69	2,037.45	1,999.64	2,018.79	1,992.90	2,018.43	1,992.56	2,024.48

Note. AIC = Aikake information criterion, BIC = Bayesian information criterion. Lower values of both indices indicate better model fit.

To test how individualizing moral foundations (on the within-participant level) mediate the effect of future self- similarity (on the within-participant level) on individualizing moral acts, we ran a simple mediation model (Model 4; Hayes, 2018). The same model was developed when assuming binding moral acts and binding moral foundations as dependent and mediator variables, respectively. The indirect effects were interpreted by constructing the 95% quasi-bayesian confidence intervals (King et al., 2000), a recommended way of studying mediation effects in multilevel mediation models (Imai et al., 2010).

2.9.4. Results

Table 13 contains the descriptive statistics, internal consistencies, and ICCs (only for state-level measures) of the study variables. All variables showed good to excellent internal consistencies. Furthermore, the values of ICC for all state-level variables indicate that a large portion of variance can be attributed to within-participant variations, implying that multilevel modeling might be beneficial in studying our hypothesis. Finally, the interrater agreement for individualizing (κ = .90) and binding (κ = .80) moral actions was very high.

Table 14.

Descriptive Statistics, Internal Consistencies, and ICCs For the Study Variables.

Variable	*M*	*SD*	*α*	*ICC*
Trait-level				
Future self- similarity	4.51	.87	.62	
Individualizing moral foundations	5.70	.64	.62	

Binding moral foundations	3.81	.96	.85	
State-level				
Future self- similarity	4.87	1.10	.89	.68
Individualizing moral foundations	4.60	1.73	.91	.71
Binding moral foundations	3.14	1.47	.90	.79

Note. *M* and *SD* refer to means and standard deviations respectively. α represents the internal consistency coefficient. ICC stands for intraclass correlation coefficients.

The individual multilevel models suggest that state-level future self-similarity positively affects state-level individualizing moral foundations (b = .19, t = 4.82, p < .001, R^2 = .02) and individualizing moral actions (b = .29, OR = 1.34, z = 3.30, p < .001, R^2 = .02), as well as binding moral foundations (b = .12, t = 4.07, p < .001, R^2 = .01). On the other hand, future self- similarity did not predict binding moral actions (b = .10, OR = 1.11, z = .88, p = .381, R^2 = .00).

As an ancillary analysis, we also explored the effect of future self-similarity separately on the five moral foundations. Future self-similarity positively predicted harm (b = .24, t = 5.37, p < .001, R^2 = .02), fairness (b = .15, t = 3.43, p = .001, R^2 = .01), loyalty (b = .10, t = 3.05, p = .002, R^2 = .01), and purity (b = .13, t = 3.54, p = .001, R^2 = .01). All in all, future self-similarity achieved a positive effect on the daily fluctuations of all five foundations concerns with the effect on harm being the strongest.

2.9.4.1. Hierarchical multilevel models

Table 14 summarizes the results of a hierarchical multilevel regression analysis when considering individualizing and binding moral foundations as dependent variables. Within-participant parts of future self- similarity scores were positively associated with within-participant individualizing moral foundations (Model 2) and significantly improved model fit when compared to the baseline model, χ^2 (3) = 137.700, p < .001. This positive effect remained significant when including between-participants parts of future self- similarity (Model 3) and trait-level values of future self- similarity and

individualizing moral foundations (Model 4). Furthermore, between-participant future self- similarity was a significant predictor of individualizing moral foundations, and its inclusion in Model 3 additionally improved model fit, χ^2 (1) = 14.37, $p < .001$. Finally, adding trait-level future self-similarity and individualizing moral foundations in Model 4 also resulted in a better fit, χ^2 (2) = 4.91, $p = .086$. However, only the contribution of trait-level individualizing moral foundations was significant. The effect of all significant predictors was positive in the final model.

Including within-participants future self- similarity in a model (Model 2) predicting within-participants binding moral foundations improved fit when considering the baseline model, χ^2 (3) = 63.42, $p < .001$. Likewise, including between-participant parts of future self- similarity (Model 3) improved the model's predictive power, χ^2 (1) = 11.64, $p = .001$. Both effects remained significant in the largest Model 4, where we added trait-level scores of both variables. Trait-level binding moral foundations and future self- similarity were significantly associated with the dependent variable resulting in a significantly improved fit when comparing Model 3 to Model 4, χ^2 (2) = 30.72, $p < .001$. In the final model, all predictors positively affected the outcome bar one. Future self- similarity on the trait level was negatively related to binding moral foundations.

Table 15 presents the results of a hierarchical multilevel analysis in the case of moral actions being the dependent variables. Within-participants future self- similarity (Model 1) was positively associated with individualizing moral actions and improved model fit compared to the baseline model, χ^2 (3) = 35.72, $p < .001$. Including within-participants individualizing moral foundations in Model 2 was also significant, χ^2 (4) = 81.29, $p < .001$. Both effects remained significant when adding additional predictors to the expanded model. However, the inclusion between-participants parts of future self-similarity (Model 3) and individualizing moral foundations (Model 4) and their trait-level counterparts (Model 5) did not improve the models' interpretative power, $\chi^2 < 2.02$, all *p*s > .155.

Table 15.

Hierarchical Multilevel Regression Analysis When Considering Moral Foundations as Dependent Variables.

IMF (wp)												
Variable	Baseline model			Model 1			Model 2			Model 3		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Intercept	4.71	.11	41.33***	4.71	.11	41.12***	4.71	.11	43.12***	2.03	1.20	1.69
Day	-.04	.02	2.70**	-.04	.02	2.82**	-.04	.02	2.82**	-.04	.02	2.83**
FSS (wp)				.16	.04	4.52*	.16	.04	4.56***	.16	.04	4.56**
FSC (bp)							.45	.11	3.89***	.34	.14	2.55*
FSC (trait)										-.10	.14	.70
IMF/BMF (trait)										.54	.18	3.03**
	R^2 = .00			R^2 = .01			R^2 = .07			R^2 = .12		
	AIC = 12,108.84			AIC = 11,977.14			AIC = 11,964.76			AIC = 11,959.44		
	BIC = 12,140.76			BIC = 12,028.21			BIC = 12,022.22			BIC = 12,029.67		
BMF (wp)												
Variable	Baseline model			Model 1			Model 2			Model 3		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Intercept	3.23	.23	29.61***	3.23	.11	29.54***	3.23	.11	30.60***	2.33	.65	3.59***
Day	-.03	.01	2.32*	-.03	.01	2.36*	-.03	.01	2.38*	-.03	.01	2.40*
FSS (wp)				.07	.02	2.97**	.07	.02	3.10**	0.07	.02	3.10**
FSC (bp)							.39	.11	3.55***	0.41	.11	3.60***
FSC (trait)										-.27	.12	2.20*
IMF/BMF (trait)										0.55	.10	5.59***
	R^2 = .00			R^2 = .00			R^2 = .01			R^2 = .15		
	AIC = 8,887.64			AIC = 8,832.22			AIC = 8822.58			AIC = 8795.86		
	BIC = 8,925.94			BIC = 8,896.06			BIC = 8892.80			BIC = 8878.85		

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. *b* = unstandardized regression coefficients; *SE* = standard error of unstandardized regression coefficients; R^2 = marginal coefficient of determination (Nakagawa et al., 2017); AIC = Aikake Information Criterion; BIC = Bayesian Information Criterion; wp = within-participants; bp = within-participants; FSS = future self- similarity; IMF =

individualizing moral foundations; BMF = binding moral foundations. Trait-level individualizing moral foundations were included in Model 3 when predicting within-participants-centered individualizing moral foundations scores. Trait-level binding moral foundations were included in Model 3 when predicting within-participants-centered binding moral foundations scores.

Table 16.

Hierarchical Multilevel Regression Analysis When Considering Moral Actions as Dependent Variables.

Individualizing moral actions																								
Variable	Baseline model				Model 1				Model 2				Model 3				Model 4				Model 5			
	b	*OR*	*SE*	*Z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*
Intercept	-1.58	.21	.10	15.10***	-1.63	.20	.11	14.93***	-1.77	.17	.11	15.63***	-1.77	.17	.17	15.66***	-1.76	.17	.11	15.71***	-2.48	.08	1.07	2.31*
Day	-.27	.76	.04	6.68***	-.27	.76	.04	6.71***	-.25	.78	.04	5.19	-.25	.78	.04	5.93**	-.25	.78	.04	5.97***	-.25	.08	.04	5.94***
FSS (wp)					.36	1.44	.13	2.86**	.33	1.40	.13	2.49*	.34	1.41	.14	2.54*	.33	1.39	.14	2.46*	.34	1.40	.13	2.51*
IMF/BMF (wp)									.30	1.35	.08	3.66***	.30	1.35	.08	3.69***	.31	1.36	.08	3.87***	.30	1.35	.08	3.83***
FSC (bp)													.10	1.10	.10	1.00	.14	1.15	.10	1.35	.12	1.12	.12	.95
IMF/BMF (bp)																	-.09	.91	.07	1.43	-.11	.90	.07	1.59
FSC (trait)																					-.03	.97	.12	.27
IMF/BMF (trait)																					.15	1.16	.16	.92
	R^2 = .07				R^2 = .08				R^2 = .10				R^2 = .10				R^2 = .10				R^2 = .10			
	AIC = 3,136.32				AIC = 3,106.60				AIC = 3,033.32				AIC = 3,034.32				AIC = 3,034.30				AIC = 3,037.38			
	BIC = 3,161.86				BIC = 3,151.29				BIC =3,103.54				BIC = 3,110.93				BIC = 3,117.29				BIC = 3,133.14			
Binding moral actions																								
Variable	Baseline model				Model 1				Model 2				Model 3				Model 4				Model 5			
	b	*OR*	*SE*	*Z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*	*b*	*OR*	*SE*	*z*
Intercept	-2.54	0.08	0.16	15.75***	-2.58	0.08	0.17	15.52***	2.72	0.07	0.18	15.04***	-2.72	0.07	0.18	15.02***	-2.72	0.07	0.18	15.07***	2.82	0.06	0.86	3.28***
Day	-0.29	0.75	0.06	4.54**	-0.29	0.75	0.06	4.46**	-0.27	0.76	0.07	3.98***	-0.26	0.76	0.07	3.98***	-0.27	0.76	0.07	4.02***	-0.27	0.76	0.07	3.99***
FSS (wp)					0.21	1.24	0.14	1.53	0.19	1.21	0.14	1.3	0.19	1.22	0.15	1.33	0.19	1.21	0.14	1.34	0.2	1.22	0.14	1.38
IMF/BMF (wp)									0.04	1.04	0.14	0.29	0.04	1.04	0.14	0.3	0.04	1.04	0.14	0.29	0.03	1.04	0.15	0.25
FSC (bp)													0.05	1.05	0.13	0.4	0.11	1.12	0.14	0.8	0.16	1.17	0.15	1.04
IMF/BMF (bp)																	-0.16	0.86	0.1	1.62	-0.23	0.8	0.1	2.20*

FSC (trait)						-17	0.85	0.16	1.04
IMF/BMF (trait)						0.22	1.25	0.14	1.63
	R^2 = .07	R^2 = .07	R^2 = .07	R^2 = .07	R^2 = .08	R^2 = .08			
	AIC = 1,992.90	AIC = 1,993.02	AIC = 1,981.03	AIC = 1,982.87	AIC = 1,982.24	AIC = 1,982.94			
	BIC = 2,018.43	BIC = 2,037.70	BIC = 2,051.25	BIC = 2,059.48	BIC = 2,065.23	BIC = 2,078.69			

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. *b* = unstandardized regression coefficients; *SE* = standard error of unstandardized regression coefficients; *OR* = odds ratios; R^2 = marginal coefficient of determination (Nakagawa et al., 2017); AIC = Aikake Information Criterion; BIC = Bayesian Information Criterion; wp = within-participants; bp = within-participants; FSS = future self-similarity; IMF = individualizing moral foundations; BMF = binding moral foundations. Within-participant-centered individualizing moral foundations were included in Model 2, grand mean-centered individualizing moral foundations were included in Model 3, and trait-level individualizing moral foundations were included in Model 4 when predicting individualizing moral action. Within-participant-centered binding moral foundations were included in Model 2, grand mean-centered binding moral foundations were included in Model 3, and trait-level binding moral foundations were included in Model 4 when predicting binding action.

Within-participants future self- similarity was not significantly associated with binding moral actions, and the inclusion of this variable in Model 1 did not improve model fit compared to the baseline model, χ^2 (3) = 5.88, p = .117. Model 2 fitted the data better than Model 1, χ^2 (4) = 19.99, p = .001, but within-participants future self- similarity did not make a significant contribution. Including additional predictors in Models 3, 4, and 5 did not significantly improve model fit, $\chi^2 < 3.31$, all ps > .105. However, in the largest Model 5, a negative effect of between-participant binding moral foundations scores emerged as significant.

2.9.4.2 Mediation Models

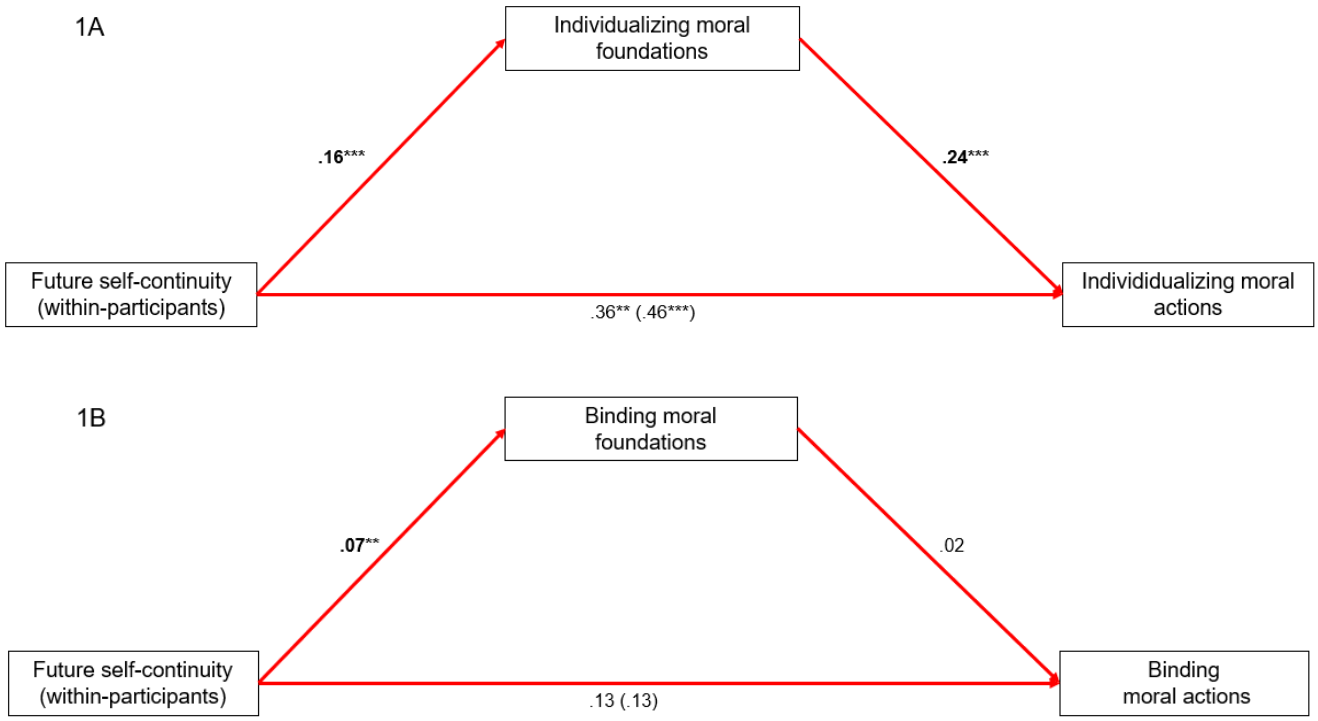
The tested mediation models are presented in Figure 10. We first examined the mediation effect of individualizing moral foundations when considering the relationship between future self- similarity and individualizing moral actions. The total effect of the mediation model was significant, with mean total effect = .06, 95% CI= [.03, .10], p = .002. The direct effect of future self-continuity reached significance levels, mean direct effect = .06 95% CI = [.03, .09], p = .002; as did the indirect effect via individualizing moral foundations, average mean indirect effect = .004, 95% CI = [.002, .01], p < .001. We did not find a similar pattern for the model, including binding moral foundations as the mediator of the effect of future self- similarity on binding moral actions. The total (mean total effect = .01, 95% CI= [-.01, .04], p = .200) and direct (mean direct effect = .01 95% CI = [-.01, .04], p = .200), and indirect effects (average mean indirect effect = .00 95% CI = [.00, .00], p = .770) were not significant.

As a remedy, we also tested whether opposite moral foundations clusters predicted their moral action counterparts. Binding foundations did not mediate the relationship between future self-similarity and individualizing moral actions, mean total effect = .06, 95% CI = [.03, .09], p < .001; average mean indirect effect = .00, 95% CI = [-.00, .00], p = .650;. mean direct effect = .06, 95% CI = [.03, .09], p < .001. Likewise, individualizing foundations did not mediated the effect of future self-similarity on

binding moral actions, mean total effect = .02, 95% CI = [-.01, .04], *p* = .202; average mean indirect effect = .00, 95% CI = [-.00, .00], *p* = .280; mean total effect = .02, 95% CI = [-.01, .04], *p* = .202. Our additional analyses provide additional evidence of the specificity of the identified significant mediation effect of individualizing moral foundations regarding the relationship between future self-similarity and individualizing moral actions.

Figure 10.

Unstandardized Regression Coefficients for the Relationship Between Within-Participants Future Self-Similarity With Individualizing Moral Actions (1A) and Binding Moral Actions (1B) as mediated by Individualizing Moral Foundations (1A) and Binding Moral Foundations (1B). Significant Paths are Marked With Bolded Red Arrows.



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

2.10. Discussion Chapter 2

We have found evidence that future self-similarity might induce a greater consideration of moral foundations. In Study 1, future self-similarity correlated positively with individualizing MFs. This effect was moderated by higher levels of (social) self-esteem. On the other hand, future self-similarity also did correlate positively with binding foundations, but that observed effect did not reach statistical significance. In Study 2, we attempted to identify a strong manipulation of future self-similarity. We found that assuming a general similarity focus before focusing on the similarities with the future self significantly increased similarity but not the other two future self-continuity components compared to a neutral control condition. However, the similarity group did not differ from the dissimilarity and general future-focused group. We used that manipulation in Study 3 to provide experimental evidence that future self-similarity increases individualizing moral foundations concerns. Our manipulation achieved its effect by increasing future self-similarity but not positivity and vividness. The same mediation effect was not present on binding moral foundations.

In Study 4, we have identified moral identity centrality as a mediator variable that might explain how future self-similarity affects considerations of moral foundations. While our manipulation's direct effect was not significant, we identified a serial indirect effect through future self-similarity and moral identity on individualizing and binding moral foundations. Furthermore, that effect was stronger for the first set of foundations. Additionally, our manipulation positively impacted binding moral foundation levels by increasing the vividness component. Study 5 provided additional support for our central hypothesis. We have found that asking participants to think about ways they would be similar to themselves in the future increased both moral foundations cluster compared to the control condition. The effect on individualizing moral foundations was mediated by moral identity. Once again, our

manipulation successfully increased binding pillars by positively affecting future self-vividness. However, the mentioned patterns of results were not present when comparing the future self to the present self-focused group. Study 6 suggested that focusing on the self might be more relevant than focusing on the future in increasing future self-similarity and, indirectly, moral foundations. While self-framing did not achieve a direct effect on our dependent variables, a serial mediation model suggested a significant indirect effect through future self-similarity and moral identity centrality on both individualizing and binding moral foundations.

Study 7 found that future self-similarity predicted state-level daily fluctuations in moral foundations concerns. For individualizing moral foundations, within- and between participants daily fluctuations of future self-continuity were more important than trait-level scores of future self-continuity. On the other hand, future self-continuity on all three levels of analysis contributed significantly in explaining participants' binding moral foundations' scores. However, one should interpret this finding with caution since the difference in explained variance for both within- and between-participants future self-continuity was only marginal compared to the baseline model. Additionally, only the inclusion of trait-level binding moral foundations resulted in a visible improvement in model fit.

The results of Study 7 also suggest that future self-similarity can predict the likelihood of performing moral actions. Our analysis indicated that within-participants future self-similarity is particularly relevant in predicting individualizing moral actions even when controlling for between-participant and trait level scores of the same variable and individualizing moral foundations scores on all three levels of analysis. The subsequent mediation model revealed that the effect of within-participants future self-similarity was mediated by higher levels of individualizing moral foundations concerns. The same analysis for binding moral actions as the outcome variable was not so promising.

Future self-similarity and, surprisingly, binding moral foundations on all three analysis levels did not significantly contribute to explaining binding moral actions. Similarly, the indirect effect through binding moral foundations did not reach significance.

A detailed discussion of the most important findings follows.

2.10.1. Measuring and Manipulating Future Self-Continuity (Similarity)

The discussion of an appropriate measure of future self-continuity still exists. For a long time, the only validated measure of this construct was the single-item FSCS already described in this chapter. In general, single-item measures are problematic because of low content validity and low number of discrimination points (McIver & Carmines, 1981). Furthermore, the reported test-retest reliability of this measure (r = .66; Ersner-Hershfield, Garton, et al., 2009) is questionable. Finally, abstract and complex constructs such as future self-continuity are rarely assessed with only one item (Sokol & Serper, 2020).

To address this concern, along with the FSCS, we have used the recently validated FSCQ (Sokol & Serper, 2020). The FSCQ is a conceptually and psychometrically superior measure. First, it measures and differentiates between the three future self-continuity components. Second, the FSCS is concerned with only a general impression of present/future self-similarities and, therefore cannot capture the subtle nuances in which participants feel similar and good about their future selves and can vividly imagine it. The FSCQ handles that issue by asking participants about different ways their future self feels similar (general similarity, similarity in beliefs, similarity in personality, and similarity in values), vivid (personality, physical appearance, and family life), and positive (general liking, liking of future personality, linking of future behavior). Third, FSCQ is a multi-scale, multi-item measure of future self-continuity that allows for a more reliable and discriminative assessment of the construct. In that regard, it can differentiate better between participants with high future self-continuity and those with

lower levels. For these reasons, we could detect significant relations between our main dependent variables and the FSCQ subscales. While the effects of FSCS scores were in the same direction, they did not reach significance and were of smaller magnitudes when compared to the FSCQ.

Related to the measurement issue is the discussion about an effective future self-similarity manipulation. As detailed in Section 2.3., previous studies identified only modest effect sizes of their manipulation on future self-similarity and other relevant dependent variables. This issue might be related to the way future self-continuity was measured. Earlier work adopted FSCS or similar one-item measures (see Bartels & Rips, 2010; Bartels & Urminsky, 2015) of the construct. By also using the more articulated FSCQ, we could detect significant manipulation effects on all three future self-continuity facets. In studies 2 and 3, we could detect a significant effect on future similarity exclusively, while our manipulations in studies 4-6 increased all three components. These results have two implications. First, priming present/future self-similarities through the letter-writing task might be a useful strategy: the only issue is to select a psychometrically superior measure of future self-continuity. Second, as previously implied by Hershfield (2011), future self-similarity might be the "core" facet of the three components. While the letter-writing task aimed to increase future self-similarity, it also positively affected vividness and positivity. In other words, it might be possible that feeling similar to the future self also implies the ability to perceive it vividly and take a positive stance toward it.

In studies 2 and 3, we have attempted to tackle the issue of manipulating future self- similarity by strengthening the letter-writing task with a general similarity focus. Following Mussweiler's (2003) selective accessibility model, we introduced a picture comparison task to prompt participants to seek similarities before working on the letter-writing task. This combination of tasks was promising: it increased future self-similarity levels compared to a general control condition. In Study 4, we decided

to cut the picture comparison task from our experimental procedure to examine its relevance to our manipulation's effectiveness. The results of this study indicated that we managed to increase future self-continuity without introducing a general similarity focus first. Subsequent studies 5 and 6 also used the letter-writing task exclusively and successfully increased the reported levels of future self-continuity components. Specifically, it is possible that the picture comparison task might not present a useful reinforcement to the letter-writing task.

The last point related to the manipulation of future self-similarity is related to framing manipulation. Specifically, to increase future self-similarity, we asked ourselves whether it is more important to think about the self or the future. For example, comparing the future self-manipulation to a general future focus yielded smaller differences between the two conditions in future self-continuity (Bartels & Urminsky, 2015; Hershfield et al., 2012). On the other hand, Hershfield and colleagues (2011) reported that interacting with a future self successfully increased reported future self-continuity compared to a present self-focus. However, our studies seem to imply a more nuanced pattern. In Study 4, we found that our future self-similarity manipulation increased the three components compared to a control condition. However, no differences were found when comparing future self-focused participants with their present self-focused counterparts. Study 5 supported these findings by registering a significant main effect of self-focus: participants focusing on themselves scored higher in all three FSCQ subscales than participants focusing on a neutral stimulus. We did not find a main effect of future framing or an interaction effect of the self and future frame. Simply put, focusing on self-characteristics might be enough to increase future self-continuity. However, in all studies we consistently identified a directional although not significant pattern showing higher scores for the future self-focused condition.

To further understand the role of the self in increasing future self-similarity, we have conducted an exploratory internal meta-analysis for Studies 5 and 6 were we compared the effect of the two self conditions (present vs. future) on future self-similarity. We found a significant aggregated meta-analytic effect in favor of the future self condition, $d = .29$, 95% CI [.02, .55], $t = 2.14$, $p = .032$. It appears therefore that the future self-focused manipulation is slightly more effective than the present self-focused one, although larger samples are needed to identify a significant difference. We will return to this matter when discussing the role of self and neutral framing in increasing moral concerns (see Section 2.10.5.).

2.10.2. The Effect of Future Self-Similarity on Moral Intuitions

The main focus of our studies was to examine how future self-similarity relates to morality on a broader and more intuitive level. Specifically, we expected that future self- similarity positively increases moral foundations concerns (*Hypothesis 1*). In all studies presented in this Chapter, except Study 4, one future self-continuity component was consistently linked with reported moral foundations levels. Future self-similarity was significantly related to individualizing moral foundations in the correlational Study 1, experimental studies 3,5 and 6, and the ESM Study 7. Additionally, the same component was positively associated with binding moral foundations in studies 5-7.

While our experimental work did not yield a robust indirect effect on both moral foundation clusters (see Section 2.10.7.), our internal meta-analysis suggested a robust effect of our experimental manipulations through future self-similarity on both individualizing and binding moral foundations. While an indirect effect of future self-positivity on individualizing pillars also emerged, it did not differ from the same indirect effect on the binding moral cluster that did not reach significance. In other words, we do not have enough evidence to claim that our manipulation achieved a clear indirect effect

on individualizing foundations by increasing the positivity component (Coutts & Hayes, 2022; Hayes, 2018).

Feeling similar to oneself in the future might increase endorsements of the five moral foundations. Our findings align with previous studies that linked future self-continuity with specific moral transgressions (Hershfield et al., 2011; Van Gelder et al., 2013, 2015). Previous work focused solely on the endorsement of lying and cheating behavior (unethical behavior; Hershfield et al., 2011) and behaviors such as stealing and skipping school (delinquency, Van Gelder et al., 2015), issues that are strongly saturated with individualizing moral foundations concerns (Jonason et al., 2015; Silver & Silver, 2017, 2021; Vaughan et al., 2019). However, we have also extended these findings to binding moral foundations. Future self-similarity might also increase the consideration of moral values and virtues related to group loyalty and ties. In other words, feeling future/present self-similarities might also highlight the importance of staying loyal to one's group, and respecting authority and rules (Graham et al., 2009, 2011, 2013).

We expected that future self-similarity should have a stronger effect on individualizing than binding moral foundations (*Hypothesis 2*). In line with our assumption, future self-similarity achieved a stronger effect on individualizing moral foundations in studies 3-7. The internal meta-analysis showed that the effect of our condition through future self-similarity was stronger on individualizing than binding foundations across our experimental studies. These results are in line with previous literature regarding the moral foundations' centrality. As stated previously, the literature highlights the temporal stability of individualizing moral foundations (Napier & Luguri, 2012; Obeid et al., 2017; Piazza & Bering, 2008; Yilmaz & Saribay, 2017). Relatedly, if one can connect to their future self, they might want to protect this self from moral transgression expected to stay relevant over time. Indeed, feeling responsible for others might invoke greater considerations of harm and justice (Süssenbach et al.,

2019). Just as one might assume responsibility for other people, they could also become more responsible for their future self by perceiving it to be the same as the current self (Hershfield, 2011; Pronin & Ross, 2006; Pronin et al., 2008; Burum et al., 2016). In that case, individuals might want to protect their future selves by being more considerate toward others' rights and safety.

Unexpectedly, an indirect effect of vividness on binding moral foundations also emerged in studies 4 and 5. The meta-analysis suggested that this effect was robust across all our experimental studies and stronger than the same estimated effect on individualizing moral foundations. While the similarity component seems relevant in increasing the reliance on both moral systems, vividness might be an alternative to making binding moral foundations more salient. One possible explanation could be that vivid representations of the future self might also include schemas of future relevant others. Indeed, imagining the future encompasses close interpersonal relationships imagery (Barsics et al., 2016; Lapp & Spaniol, 2017; Spuznar et al., 2014). Similarly, the content of the FSCQ vividness subscale might also have influenced these results. Item 3 ("How vividly can you imagine what your family relationships will be like in 10 years from now?") focuses on family ties in the future. Vividly projecting oneself to the future might invoke a greater reliance on binding moral foundations by highlighting the need to protect people important to the future self (i.e., family, friends, or coworkers).

2.10.3. The Moderating Role of (Social) Self-Esteem

Starting from the Planner-doer model of moral standards (Dal Bó & Terviö, 2013), we tested the hypothesis that high self-esteem moderates the effect of future self-continuity on moral foundations (*Hypothesis 5)*. In correlational Study 1, we observed that the effect of future self-similarity on individualizing moral foundations was significant only for individuals with higher scores on the extraversion facet of social self-esteem measured using the 60-item HEXACO-PI (Ashton & Lee, 2019). However, this finding was marginally significant (p = .049), and only three items measured

social self-esteem. Therefore, in Study 3, we decided to replicate the moderation effect with more rigor by measuring self-esteem with the expanded social self-esteem subscale of the 100-item HEXACO-PI (Ashton & Lee, 2019) and a global self-esteem scale (Rosenberg, 1965). We could not replicate the moderation effect from Study 1 with these more sophisticated measures. The lack of significant results prompted us to explore another hypothesis in our subsequent studies: the mediating role of moral identity.

2.10.4. The Mediating Role of Moral Identity

In studies 4-6, we tested our hypothesis that moral identity mediates the effect of future self-continuity on moral foundations (*Hypothesis 3*). Studies 4 and 6 found a significant serial mediation effect on individualizing and binding moral foundations through future self-similarity and moral identity. In Study 5, the effect of our manipulation was mediated solely by greater levels of moral identity centrality. Our meta-analysis revealed a robust serial mediation effect throughout our studies, while the indirect path through moral identity did not reach significance.

Once again, it seems that future self-similarity might be the most relevant component in increasing moral identity and, by proxy moral foundations. Considering the other two future self-continuity facets as the first mediators, the same serial indirect effect was not significant in our studies and the internal meta-analysis. In line with the hypothesis from the Planner-doer model of moral standards (Dal Bó & Terviö, 2013), far-sighted individuals resist immoral temptations to protect their positive self-image. People who feel similar to their future selves see moral traits as core self-components in maintaining continuity over time (Molouki & Bartels, 2017; Strohminger & Nichols, 2014). In that regard, higher levels of future self-similarity might foster moral foundations concerns by making moral traits and values more salient and worth protecting. In other words, our results also support the self-maintenance hypothesis (Hershfield et al., 2012; Mazar et al., 2008). Expecting to stay

the same over time might promote moral deliberations to maintain a positive (moral) self on the temporal landscape.

Studies 4-6 also demonstrate that the effect of the mediational role of moral identity is not exclusive to individualizing moral foundations. Individuals with high future self-similarity might see adherence to moral virtues such as loyalty, authority adherence, and purity as an additional pathway to remaining decent. Indeed, the current literature highlights that moral identity centrality also elicits concerns about binding moral foundations (AlSheddi et al., 2019; Feldman, 2021; Smith et al., 2014). However, our meta-analysis suggested that the indirect pathways through future self-similarity and moral identity were stronger for individualizing than binding moral foundations (*Hypothesis 4*). In line with our hypothesis about the time-space invariance of individualizing moral foundations (Napier & Luguri, 2012; Obeid et al., 2017; Piazza & Bering, 2008; Yilmaz & Saribay, 2017), high future self-similarity individuals should be more sensitive to moral concerns expected to stay relevant over time. Therefore, people might exhibit a motivation to maintain positive moral traits by focusing on deliberations and behavior that will help the future self stay moral. Specifically, they might give more attention to the more temporally stable individualizing moral foundations.

2.10.5. Temporal versus Self-Framing

As stated in Section 2.10.1. studies 5 and 6 showed that thinking about the self might be more relevant in increasing future self-continuity and, subsequently, moral foundations concerns. In Study 5, focusing on the future and present selves increased moral identity and moral foundations scores compared to a control condition. In Study 6, we did not observe a direct effect of our manipulation on the relevant dependent variables. However, we did find an indirect effect of self-frame through future self-similarity and serially through the similarity component and moral identity centrality.

When interpreting these results, one could claim that focusing on the present self might be enough to affect moral judgments. Indeed, previous studies found that making a current me salient increased considerations about one's morality (Diener, 1976; Touré-Tillery & Light, 2018; Verplanken & Holland, 2002). However, it is also important to highlight that a focus on the present self also increased future self-continuity components, as did our future self-similarity manipulation (Study 5), and that self-framing was found to be more relevant in increasing perceived similarity with the future self than temporal-framing (Study 6; see also Section 2.10.1). Therefore, thinking about the present self might evoke thinking about traits one considers stable over time (Haslam et al., 2004; Riis et al., 2008). Similarly, Strohmhinger and Nichols (2014) demonstrated that people conceive their impressions of others (and themselves) in stable characteristics relevant to maintaining temporal continuity. Participants writing about their present selves might have reported high levels of future self-similarity because they were thinking of characteristics that might not change in the future. The salience of these traits (e.g., personality traits, interests, and goals) might have contributed to expecting fewer self-changes in the future (Molouki & Bartels, 2017) and thus greater levels of future self-similarity.

2.10.6. Future Self-Continuity and Morality in Everyday Life

We conducted Study 7 to generalize our findings to participants' everyday life and examine how temporal fluctuations in future self-similarity and moral foundation concerns assessed using ESM account for variations in daily moral behavior. First, we have found that future self-similarity affects moral foundations on within- and between-participant levels of analysis. Including within-participants future, self-similarity improved the predictive power of our model containing individualizing moral foundations ESM scores. In other words, during measurement days where participants reported higher future self-similarity on average, they were also more likely to report greater mean levels of individualizing moral foundations. In line with our previous studies, between-participants future self-similarity scores provided an even greater contribution to improving model fit. Including that variable

contributed to an additional 6% of explained variance in individualizing foundations scores. The positive predictor effect indicated that participants reporting greater future self-similarity levels on average also reported higher levels of individualizing moral foundations. Both effects persisted when controlling for trait-level measures of future self-similarity and individualizing moral foundations. For binding moral foundations, a similar pattern of results emerged. Both within- and between-participant future self-similarity positively affected the binding pillars, and the effect remained significant when controlling for trait-level scores. However, the improvement in model fit was much lower than in the model predicting individualizing moral foundations. Including withing-participants future self-continuity scores trivially improved model fit (less than 1% of explained variance improvement), while between-participants scores explained approximately 1% of additional variance. To sum up, these results are in line with the initial hypotheses and our cross-sectional data. Intra and inter-individual fluctuations of future self-continuity predicted participants' scores on both moral foundations clusters (*Hypothesis 1*), and those effects were stronger in individualizing moral foundations (*Hypothesis 2*).

Study 7 also allowed us to examine how future self-similarity affects actual moral behavior that participants performed (and reported) between measurement points. It seems that moral behavior is more affected by within- than between-participants variations of future self-similarity. Within-participants future self-similarity scores positively predicted the likelihood of performing an individualizing moral action. Specifically, in cases of a one-unit increase in participants' daily future self-continuity levels, the odds of them reporting an individualizing moral action increase by 1.44 times (small effect, see Chen et al., 2010; Cohen, 1988). The inclusion of between-participants future self-similarity did not significantly improve model fit. This pattern of results persevered when controlling for trait-level future self-continuity and individualizing moral foundations at all three levels of analysis (within-, between-participant, and trait).

Interestingly, only within-participant individualizing moral foundation scores predicted individualizing moral actions. The other two versions of this variable did not contribute significantly. Finally, our mediation model suggested a significant indirect effect of within-participant future self-similarity through ESM individualizing moral foundations scores. When participants reported higher levels of future self-similarity scores, they were more likely to report higher concerns about individualizing pillars and thus indicate that they performed an individualizing moral action between assessment points. The results imply that, at least in the case of individualizing moral actions, dynamic fluctuations over time regarding moral foundation sensitivity and perceived future self-similarity an individual participant experienced matter more than the temporal fluctuations of those variables of all participants on average. Since group-level changes did not significantly contribute to individualizing moral behavior prediction, the effect of future self-similarity on individualizing moral foundations and behavior can be explained on the individual level of analysis.

A positive effect of within-participant variability in future self-similarity scores on individualizing moral actions generalizes our findings also to the behavior levels of morality. In line with recent research (Hershfield et al., 2011; Van Gelder et al., 2013, 2015), in situations when one becomes more aware of present-future self-similarities, they might be more inclined to behave in ways that protect care and justice values. We also extend previous work by showing that higher levels of individualizing moral foundations can explain this effect. In other words, when feeling similarities with the future self, one might be more likely to perform individualizing moral actions because they become more sensitive to time-transcending moral issues concerning the right and safety of other individuals (Napier & Luguri, 2012; Obeid et al., 2017; Piazza & Bering, 2008; Yilmaz & Saribay, 2017).

On the other hand, our analysis on binding moral actions indicated that the inclusion of both future self-similarity and binding moral foundations on all three levels of analysis yielded no

improvement in model fit. Surprisingly, a negative effect of between-participants binding moral foundations scores emerged in the final model. In other words, when participants were more concerned with binding pillars on average, they were 1.25 times less likely to report performing a binding moral action (a very small effect; see Chen et al., 2010; Cohen, 1988). These conflicting and unclear results might imply that binding moral actions might not be solely motivated by values that lie beneath them although the very small negative effect could also be an occasional finding. Future studies could help to verify its robustness.

Other contextual factors might be more relevant in understanding why people want to behave in a way to maintain group ties and adhere to prescribed rules. For example, Yudkin and colleagues (2021) found that binding moral foundations become more important in the presence of close others. Similarly, binding moral foundations might motivate behavior in situations where ingroup protection is salient (Milesi & Alberici, 2018; Nilson et al., 2016). Finally, the present literature seems to advocate that binding pillars are more affected by environmental factors (Yudkin et al., 2011). In line with these findings, a possible explanation of these null and opposite effects could be found in the content of reported moral actions. Our initial coding strategy followed the work of Hoffman and colleagues (2014), where we considered a particular behavior an individualizing or binding moral action. However, during coding, we noticed that some actions might have been motivated by both clusters of moral issues (e.g., “taking care of my sick grandmother instead of going out with my friends” implies an orientation towards care *and* loyalty to a family member). As a remedy, we have also adopted another coding strategy where we coded an action as either individualizing, binding, *or* both. The analysis with the alternative coding strategy yielded similar results. Furthermore, using the codings of the second rater also did not change our conclusions. Therefore, we cannot exclude that even for some actions that can be primarily considered binding, contextually invariant individualizing moral values play a stronger motivational role than their binding counterparts.

2.10.7. Limitations and Implications of Current Research

Our work is not without its limitations. First, we have observed a direct effect of our manipulation on moral foundations only in studies 3 and 5. Furthermore, the internal meta-analysis suggested that the manipulation effect was non-significant across our four experimental studies. Therefore, the results of our mediation model remain at a correlational level. Since one cannot make causal claims from a mediation model (see Fielder et al., 2018), we cannot exclude a bidirectional relationship between future self-continuity and moral foundations from our data. For example, it is also possible that the saliency of issues such as the suffering of others and inequality increases self-control motivations (Hoffman et al., 2018). In other words, it might be worthwhile to investigate a possible effect of moral behavior fostering future self-similarity. Second, moral identity might not be the sole mediator explaining the relationship between our key independent and dependent variables. By following recent positive practices in considering alternative mediation hypotheses (Danner et al., 2015; Lemmer & Gollwitzer, 2017), we are not willing to exclude a possible mediation effect of other variables. For example, future self-similarity might increase concerns about individualizing MFs because the future self is constructed in abstract terms (Fujita et al., 2006) or by increasing the consideration of consequences to one's reputation in the future (Hershfield et al., 2012). Future studies should address and expand upon these issues.

Third, Miles and Upenieks (2018) argue that the contemporary moral identity models unjustifiably emphasize care and justice issues. This operational definition restricts the scope of moral identity models to virtues that seem more relevant in western countries. Indeed, the ethics of autonomy (and individualizing MFs) show greater relevance in western countries (Schwartz & Bilsky, 1990), but other cultures might value binding MF more (e.g., AlSheddi et al., 2019; Obeid et al., 2017). Therefore, Miles and Upenieks (2018) advocate for moral identity centrality measures that incorporate authority, loyalty, and purity virtues. Participants in our studies originated mostly from Italy. While our results

indicate that future self-similarity is positively related to the self-importance of traits such as kindness and generosity, it could also highlight other moral features that non-western cultures deem relevant. Hence, future self-similarity might foster the importance of different moral traits and values (e.g., loyal, pure) in contexts that value societal ties and ingroup loyalty more.

Fourth, the first six studies described in Chapter 2 explored the interplay between future self-continuity, moral identity, and moral foundations, using moral identity *internalization* as a proxy for moral identity centrality. However, Aquino and Reed (2002) theorize that internalization is only one dimension describing individual differences in moral identity importance. The other aspect of moral identity, called *symbolization*, captures the need to publicly express the moral self as a way to affirm and maintain one's core moral self-beliefs. Because symbolization is mainly driven by self-verification and impression management moives (Monin & Jordan, 2009), future self-continuity might also positively affect it. Specifically, publicly displaying ones' morality publicly might be seen as a strategy to preserve a positive reputation for the future self. While the internalization dimension seems to te a stronger predictor of moral behavior (Hardy & Carlo, 2005; Hertz & Krettenauer, 2016; Jennings et al., 2015; Shao et al., 2008) and individualizing moral foundations (Winterich et al., 2013), it seems that symbolization is positively related to the binding moral foundations (Dawson et al., 2021). Therefore, binding moral foundations endorsement might instill greater motivation to appear more moral to the ingroup (Sunil & Verna, 2018, Szekeres et al., 2019). The main implication here is that moral identity symbolization could play the role of the outcome, rather than a mediator variable in a model assessing the complex relations between future self-continuity, moral foundations, and moral identity symbolization. Future studies should aim to empirically test this theoretical model.

On the other hand, our work implies that feeling similar to the future self might instigate a greater motivation to maintain important moral traits by making basic moral intuitions more salient. Expecting the self to remain stable over time might be related to giving greater importance to moral foundations when judging whether something is right or wrong. We have extended the previous work linking future self-similarity to specific moral transgressions (Hershfield et al., 2012; Van Gelder et al., 2013, 2015) to a broader level of moral intuitions (moral foundations) and moral actions. First, we have found that future self-similarity is not only related to individualizing moral foundations endorsement. Our work suggests a positive, albeit weaker, relationship with binding moral foundation concerns. Second, we have identified moral identity as a significant mediator of this relationship. Individuals might become more sensitive to relevant moral issues due to an underlying motivation to maintain a positive moral self. Third, our study suggests vivid representations of the future self as an alternative mechanism to increase the importance of present binding moral foundations. Fourth, as stated previously, one of the main causes of political and social disagreement might be the differences in the conceived moral landscapes between the political left and right (Haidt & Graham, 2007; Graham et al., 2009). Since future self-similarity is positively related to both moral foundation clusters, asking people to project themselves to the future might help to attenuate the political and social divide.

Chapter 3: The Effect of Collective Future Continuity on Intergroup Relations

3.1. Introduction

The studies included in Chapter 3 aimed to understand how collective future continuity is related to prosocial intentions and behavior. Here, we are interested in how the conceptions about the ingroup as an unchanging entity in the future affect present prosocial judgments and decisions. Based on previous work highlighting the importance of perceived future continuity on the level of the Self for moral behavior (Hershfield et al., 2012; Simić et al., under review; Van Gelder et al., 2013, 2015), we expect that collective future continuity might similarly affect present behavior. To be more specific, collective future continuity should have a positive effect on prosocial behavior and beliefs directed toward others.

While our main hypothesis is contrary to the previous work regarding past collective continuity and behavior toward the outgroup (Brewer & Pierce, 2005; Malouida et al., 2017; Smeekes & Verkuyten, 2014; Roth et al., 2018; Wohl et al., 2010), we expect that two processes that are specific to collective future continuity can explain its positive effect on intergroup relations. First, believing that the ingroup will not change in the future should increase the confidence that it can behave prosocially to maintain its positive reputation (Charnysh et al., 2015; Tajfel & Turner, 1973; Van Leeuwen et al., 2013). In other words, collective prosocial efficacy beliefs should mediate the effect of collective future continuity on prosocial behavior towards the outgroup. Second, collective future continuity might foster prosociality by highlighting that the ingroup's future is not threatened. Because lower levels of collective angst are linked with a more relaxed stance toward out-group members (Falomir-Pichastor et al., 2004; Jetten & Wohl, 2012; Spears et al., 1997; Tabri et al., 2018; Wohl et al., 2010), we expect a significant mediational effect of this construct when considering the relationship between collective future continuity and outgroup relations.

We have conducted four studies to test these hypotheses. In Study 8, we aimed to obtain evidence of the proposed theoretical structure of CFC. Furthermore, we have examined the interplay between CFC, prosocial collective efficacy, and beliefs about prosocial behavior towards the out-group. In Study 9, we have focused on the relationship between CFC, collective angst, and prosocial normative expectations directed towards both in-group and out-group members.

These studies allowed us to examine four hypotheses. First, we expected that CFC is positively related to outgroup prosocial beliefs (*Hypothesis 1*) and that collective prosocial efficacy mediates that effect (*Hypothesis 2*). Second, we assume that CFC is negatively related to normative prosocial expectations towards the ingroup (*Hypothesis 3*) through lower levels of collective angst (*Hypothesis 4*). We tested the first two hypotheses in Study 1, while we used Study 2 to test the remaining two.

Our work expands the literature on group identity processes and prosocial behavior in three ways. Previous studies about group-level continuity focused only on the past (Brewer & Pierce, 2005; Malouida et al., 2017; Smeekes & Verkuyten, 2014b; Roth et al., 2018; Wohl et al., 2010). By showing that CFC might affect present behavior and judgments differently than its past counterpart, we aim to highlight that a positively-evaluated group continuity in the future might promote more prosocial behavior in the present. Second, while previous studies attempted to answer how thinking about the future on a collective level is related to present decision-making (Bain et al., 2013; Judge & Wilson, 2013; Shrikhanth et al., 2018; Yamashiro & Roediger, 2019), they focused exclusively on social change. Here, our main interest is the effect of coherent and continuous collective future beliefs on present-day expectations, beliefs, and intentions. Third, we aim to study CFC as a possible strategy to increase prosocial intentions and behavior. If projecting oneself in the future of the in-group fosters the tendency to provide help to others, then highlighting that the continuity of one's in-group will not be challenged in the future could be an effective policy to increase cooperation and trust between different

groups here and now. Fourth, we also aim to examine whether the proposed effect of CFC generalizes on groups other than national. If yes, CFC might also contribute Add info about the contribution of experimental studies

The local Ethics Committee approved the studies, and consent was obtained from all participants. The studies were conducted under the guidelines defined by the Declaration of Helsinki. We describe our sampling plan, all data exclusions, and all measures in each study. Datasets, analysis code, and research materials are available at https://osf.io/ezy5p/?view_only=efaff11e2fc347a5877d6d07edb7773a.

3.2. Study 8: Collective Continuity, Collective Prosocial Efficacy, and Ingroup Prosocial Beliefs

In this study, we aimed to explore the correlational relationships between the components of CFC and beliefs about prosocial behavior directed towards the out-group. Additionally, our goal was to provide evidence of the hypothesized structure of the CFC.

3.2.1. Participants

Participants were recruited for this online study by accessing a link that directed them to an online questionnaire form. We invited participants that identified themselves as Italian via an online survey link that we shared different social media platforms (Reddit and Facebook). Participants received no participation compensation. A total of 223 participants took part in the study. When we eliminated careless responses (see below), our sample consisted of 202 valid participants (N_{male} = 71, N_{female} = 128, N_{other} = 3) with an average age of 38 years (M = 38.06, SD = 13.88). We have conducted a sensitivity using the Monte Carlo power analysis for indirect effects (Schoemann et al., 2012). When power is set at .80 and α = .05, with the mentioned sample size, it was possible to detect a significant

indirect effect (.05) for a simple mediation model (Model 4; Hayes, 2018) when the correlations between the variables are relatively low (r = .26).

3.2.2. Materials and Procedure

The study was administered on the online platform Qualtrics. After providing informed consent, participants answered questions about their demographic information and filled in the following measures: the Collective Future Continuity Questionnaire (CFCQ), the Prosocial Beliefs Towards the Outgroup Scale (PBOS; Hopkins et al., 2007), the Prosocial Collective Efficacy Scale (PCES; Cuadrado et al., 2016), and a measure to detect careless responses in long surveys (SRSI; Meade & Craig, 2012). A description of measures not described previously follows.

Collective Future Continuity Questionnaire (CFCQ). We measured collective future continuity by adapting the Future Self-Continuity Questionnaire (Sokol & Serper, 2020) to measure individual differences in three facets of future-self continuity: similarity, vividness, and positivity. For our purposes, the scale was adapted to measure the proposed components of collective future continuity by replacing the target word "you" with "Italians". Furthermore, in each item, we replaced "10 years from now" with "50 years from now" because most individuals consider that societal change is plausible in 50 years (Bain et al., 2013). The adapted measure is composed of three subscales: similarity of the future collective (4 items; How similar are Italians now to what they will be like 50 years from now?), the vividness of the future collective (3 items; How vividly can you imagine what Italians will be like in 50 years from now?), and the positivity towards the future collective subscale (3 items; Do you like what Italians will be like 50 years from now?). Participants provided their answers on a seven-point scale (1 = *completely different/not at all*, 7 = *exactly the same/perfectly*).

Prosocial Beliefs Towards the Outgroup Scale (PBOS, Hopkins et al., 2007). We adopted a scale developed initially by Hopkins and colleagues (2007) to measure participants' beliefs about the

prosocial behaviors of their in-group towards out-group members. In this three-item measure, participants were asked to think about a typical in-group member (Italian) and respond how much the behaviors listed in the items (e.g., Helping a fellow foreigner in distress) are representative of the Italians' rapport with foreigners on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*).

Prosocial Collective Efficacy Scale (PCES, Cuadrado et al., 2016). We measured the confidence that the in-group (Italians) can behave cooperatively using the PCES developed by Cuadrado and colleagues (2016). The scale consisted of five items where participants are asked to determine the level at which their in-group is capable of prosocial behavior (e.g., Italians can share resources). The responses were given on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*).

3.2.3. Results and Discussion

Data analysis was carried out in the R statistical software (R Core Team, 2020). We used the psych package (Revelle, 2019) and the basic stats for data cleaning and descriptive and correlational analysis analyses. Principal components analysis was carried out with the psych (Revelle, 2019) and GPArotation (Bernaards et al., 2005) packages and mediation analyses with the lavaan package (Roseel, 2012). Table 1 contains the descriptive statistics and correlations between the variables measured in this study.

As can be seen from Table 16, all variables were measured with scales showing good to excellent internal consistencies. We have conducted a principal components analysis to inspect the structure of the newly created/adapted measures with the Scree-test and Parallel analysis (Horn, 1965) as the criteria for retaining the number of components. For the CFCQ, a three-component solution corresponding to the proposed facets of collective future continuity was suggested. After an oblimin rotation, the loadings of items on their respective components ranged from .86 to .87. The similarity

component correlated moderately with both the positivity (r = .33) and the vividness (r = .56) components. A moderate correlation was also identified for the relationship between vividness and positivity (r = .48). As expected, a one-component solution emerged for both the adapted PBOS and PCES measures. The item loadings ranged between .91 and .93 for the adapted PBOS, and between .89 and .94 for PCES.

3.2.3.1. CFC and Prosocial Beliefs

As Table 16 suggests, all three components were positively related to out-group prosocial behavior beliefs. The correlations between collective future similarity and vividness with out-group prosocial behaviors were relatively small, while positivity achieved a moderate correlation with the same variable. Furthermore, the facets of collective future continuity were also significantly related to in-group prosocial efficacy. The similarity and positivity components correlated positively and moderately with prosocial collective efficacy, while the correlation with vividness was in the same direction, albeit somewhat weaker.

Table 16.

Study 8: Means, Standard deviations, and Correlations of the Study Variables.

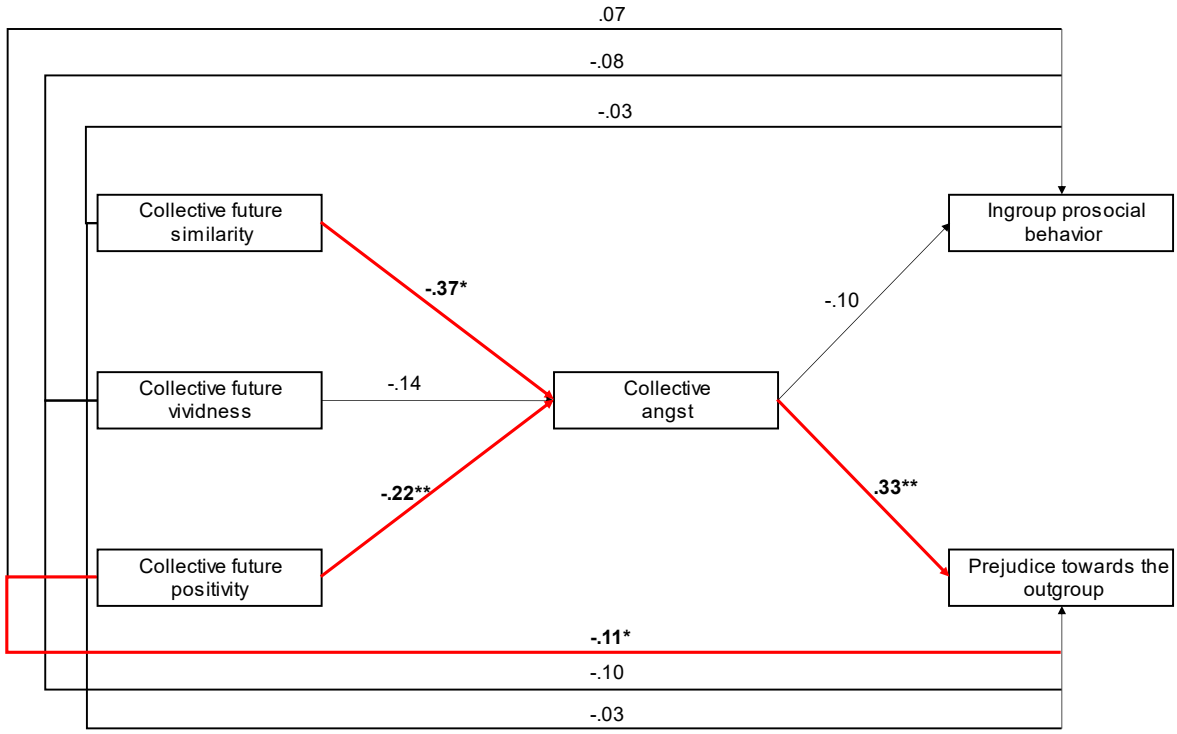
Variable	M	SD	α	1	2	3	4	5
Similarity (1)	3.89	1.17	.94					
Vividness (2)	3.66	1.01	.94	.57**				
Positivity (3)	3.90	.99	.92	.35**	.49**			
Prosocial beliefs towards the outgroup (4)	4.27	1.26	.92	.31**	.21**	.40**	(.92)	
Prosocial collective efficacy (5)	4.52	1.32	.92	.41**	.30**	.38**	.83**	

Note. M and SD represent the means and standard deviations. α represents the internal consistency coefficient for each scale.
* indicates $p < .05$. ** indicates $p < .01$.

Figure 11 shows the tested mediational model. We have included the three CFC components as predictors, while collective prosocial efficacy and out-group prosocial beliefs served as the mediator and outcome variables, respectively. The bootstrapping procedure (Hayes, 2018) on 10,000 bootstrapped samples was used to test the significance of the indirect effects. The effects of the similarity (*b* = .30, 95% CI [.13, .47]) and positivity (*b* = .29, 95% CI [.06, .50]) components were significantly mediated by higher levels of collective prosocial efficacy beliefs. On the other hand, the same indirect effect when considering vividness as the predictor variable was not significant, *b* = -.02, 95% CI [-.21, .17].

Figure 11.

Study 8: The Tested Mediation Model. Significant Paths are Marked With Bolded Red Arrows.



Note. * indicates *p* < .05, ** indicates *p* < .001

In other words, the results from Study 8 indicate that stronger expectations that the in-group will remain a stable entity in the future might be related to greater beliefs that the ingroup can demonstrate prosocial behavior towards the outgroup. These findings suggest that CFC might foster more positive prosocial attitudes towards individuals not belonging to the in-group.

3.3. Study 9: Future Collective Continuity, Collective Angst, and Prosocial Normative Expectations

We originally conceived Study 9 with three aims in mind. First, we attempted to examine the effect of a newly-developed experimental manipulation to increase collective future continuity on a) ingroup prosocial behavior and b) prejudice towards the outgroup. Second, a main confound in the interpretations of our results could have been that we asked participants about their stereotypical ingroup behavior beliefs. These deliberations might result from greater in-group idealization (Golec de Zavala et al., 2009; Leach et al., 2007; Roccas et al., 2006) and could thus reflect an unrealistic view of ingroup members. In Study 9, we addressed this concern by focusing on normative expectations of how a typical ingroup member *should* behave. Third, we included another measure of prosocial expectations to understand the effects of CFC in terms of prosocial normative expectations about the ingroup and investigate whether that effect is similar, stronger or weaker compared to the one regarding the outgroup. Fourth, to test our second mediational hypothesis, we have studied the indirect effect of collective angst, defined as perceptions of the threat of the in-groups' future (Wohl & Branscombe, 2009).

3.3.1. Participants

All participants identifying themselves as Italian were eligible to participate in the study. The total number of participants who accessed the online study was 271. When removing careless responses, our sample consisted of 200 participants (N_{male} = 77, N_{female} = 121, N_{other} = 2) with an

average age of 37 years (*M* = 36.95; *SD* = 12.88). A sensitivity power analysis showed that with our sample size, we could detect a medium-sized effect (*f* = .20) in a two-factor ANOVA with two main effects and an interaction term when setting power at .80 and α at .05. Additionally, a Monte Carlo sensitivity power analysis for indirect effects (Schoeman et al., 2012), revealed a simple mediation model (Model 4; Hayes) could detect a relatively low indirect effect (.05) when considering low correlations between the variables (*r* = .26) with the same power and α values. All participants were randomly assigned to four experimental groups: group future-focused similarity (*n* = 44), a group present-focused (*n* = 49), a neutral future-focused (*n* = 52), and a neutral present-focused group (*n* = 55).

3.3.2. Materials and Procedure

The study was administered on an online platform for sharing and conducting surveys. Italian participants were eligible for participation and we collected data by sharing the survey on social media (Facebook and Reddit) and using snowball sampling strategies. We did not give any kind of compensation for participation. After giving informed consent and demographic information, all participants started working on their respective experimental tasks. To manipulate collective future continuity, we adapted future self-similarity letter-writing task (Hershfield et al., 2012) to the collective domain. Our experiment followed a 2x2 design. The first group of participants focused on the similarities between Italians 50 years in the future and now (group future-focused similarity condition), and the second experimental group thought about Italians in the present (a group present-focused condition). In contrast, the third group focused on the similarities between public transport 50 years in the future and now (a neutral future-focused similarity condition), and the fourth one thought about the present characteristics of public transport (a neutral present-focused condition). Participants in all four groups received the following instructions:

"Some recent studies in the field of social sciences [in the field of technology] have identified a series of characteristics that define a specific culture (e.g., beliefs, language, traditions, and rites, food, diet, religion) [measures of transportation (e.g., comfort, speed, environmental impact]. We ask you to think how the Italian culture and society [measures of transport] will be in 50 years [is now] and list in the box below all aspects of Italians [measures of transport] that will be similar to now [of the present moment]. Specifically, think about the characteristics of the Italian national group [measures of transport] that will remain stable in the future [describe them]. Take two minutes to think about and write the answers to this question. You will be able to advance to the next page after the timer (shown in the upper left corner) expires. You can take more than two minutes if you need the additional time".

After finishing their respective tasks, participants completed the remaining measures used in this study: Collective Future Continuity Questionnaire (CFCQ), Prosocial Scale for Adults (PSA; Carprara et al., 2006), the adapted Modern Prejudice Scale (MDS; McConahay, 1986), and the Collective Angst Scale (CSA; Wohl & Branscombe, 2009). The study lasted approximately 10 minutes. A brief description of the measures not used previously follows.

Prosocial Behavior Scale for Adults ([PBSA]; Caprara et al. 2005). The PBSA measures individual differences in general prosocial behavior. In this 16-item measure, participants are presented with various present-day situations that require helping others (e.g., being available for volunteer activities to help those in need). We modified the initial instructions to measure participants' expectations of the in-groups' prosocial behavior ("To what extent Italians *should* engage in following behaviors). Participants responded on how much each behavior described in the item applies to them on a seven-point scale (1 = *never/almost never true*, 7 = *always/almost always true*).

Modern Prejudice Scale ([MPS]; McConahay, 1986). The MPS was developed to measure individual differences in covert racial attitudes of White Americans toward African Americans. We

have adapted the items to measure expectations of the in-group behavior towards immigrants living in Italy. Participants answered nine items (e.g., Italians *should* mix with immigrants) using a seven-point scale (1 = *never*, 7 = *always*).

Collective Angst Scale ([CAS]; Wohl & Branscombe, 2009). CAS measures individual differences in concerns that the in-group existence is and will be threatened in the future. Participants responded on a seven-point scale (1 = *completely disagree*, 7 = *completely agree*) on a set of five items that describe different concerns about the safety of the in-group and its members' way of life (e.g., I am concerned about external threats to the Italian way of life.).

3.3.3. Results and Discussion

All analyses were conducted using R statistical software (R Core Team, 2020). We used the basic stats, psych (Revelle, 2019), and the rstatix (Kassambra, 2020) packages to conduct descriptive correlational, and comparative analyses. Mediation analysis was done with the help of the lavaan package (Rosseel, 2012).

3.3.3.1. Manipulation Check

Table 17 contains the relevant descriptive statistics for our study variables by temporal (present vs. future) and ingroup (ingroup vs. neutral) focus conditions. We conducted a 2 (present vs. future) X 2 (ingroup vs. neutral) MANOVA with the three collective future facets as dependent variables. We found no main effects of ingroup, $F(3, 194) = 0.41$, $p = .742$, $\eta^2 = .01$, or temporal frame, $F(3, 194) = 0.13$, $p = .944$, $\eta^2 = .00$, as well as interaction, $F(3, 194) = 0.63$, $p = .598$, $\eta^2 = .01$. Regardless, we decided to explore our manipulation's effects further by employing three univariate follow-ups shown in Table 9. Similarly, we found no significant main or interaction effects when considering the three collective future continuity subscales as separate dependent variables. In other words, our manipulation did not successfully increase participants' collective future continuity.

Table 17.

Study 9: Means and Standard Deviations of the Study Variables as a Function of the Temporal and Ingroup Frames.

		Similarity		Vividness		Positivity		Ingroup Prosocial Behavior		Outgroup Prejudice		Collective Angst	
Temporal frame	Ingroup-frame	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Future	Ingroup	3.85	1.37	3.57	1.09	3.64	1.60	5.63	.72	2.18	.88	2.25	1.56
	Neutral	3.56	1.16	3.53	1.13	3.77	1.15	5.37	.95	2.12	.98	2.11	1.06
Present	Ingroup	3.75	1.28	3.47	.97	3.86	1.23	5.31	.95	2.23	.97	2.00	1.01
	Neutral	3.69	1.31	3.54	1.14	3.70	1.25	5.44	.81	1.96	.90	2.15	1.31

Note. M and SD represent the means and standard deviations.

3.3.3.2. Ingroup Prosocial Behavior and Outgroup Prejudice

We conducted two separate 2 (present vs. future) X 2 (ingroup vs. neutral) ANOVAs with ingroup prosocial behavior and outgroup prejudice as dependent variables. As with the manipulation check, we observed no significant main and interaction effects (see Table 18). Specifically, our manipulation failed to increase CFC and prosocial expectation levels.

Table 18.

Summary of Univariate Tests of Manipulation Effects on Manipulation Check and Dependent Variables.

	Variable				
	Similarity	Vividness	Positivity	Ingroup Prosocial Behavior	Outgroup Prejudice

Effect	*F*	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2
Temporal Frame	.90	.344	.00	.01	.914	.00	.01	.910	.00	.18	.670	.00	1.60	.208	.01
Ingroup Frame	.02	.895	.00	.06	.803	.00	.12	.732	.00	.891	.346	.00	.27	.606	.00
Temporal Frame x Ingroup Frame	.42	.518	.00	.13	.716	.00	.57	.453	.00	2.53	.114	.01	.64	.426	.00

3.3.3.3. Correlational Analyses

Since our experimental manipulation was unsuccessful, we conducted a set of ancillary analyses to explore our hypothesized relationships on a correlational level. Correlations between the variables in Study 2 are presented in Table 19. The internal consistencies of all measures ranged from acceptable to excellent. All three collective future continuity components were negatively related to modern prejudice towards immigrants and collective angst. On the other hand, negligible relations were found between the facets and prosocial expectations towards the in-group. Ingroup-directed prosocial expectations correlated negatively and moderately with modern prejudice and collective angst. Finally, as theoretically expected, negative attitudes towards the out-group were positively related to collective angst.

Table 19.

Study 9: Correlations Between the Study Variables.

Variable	*M*	*SD*	α	1	2	3	4	5	6
Similarity (1)	3.71	1.27	.86						
Vividness (2)	3.52	1.08	.90	.45**					
Positivity (3)	3.74	1.30	.93	.38**	.50**				
Ingroup prosocial behavior expectations (4)	5.43	.87	.94	.00	-.02	.09			
Outgroup prejudice (5)	2.12	.93	.78	-.29**	-.35**	-.38**	-.34**		

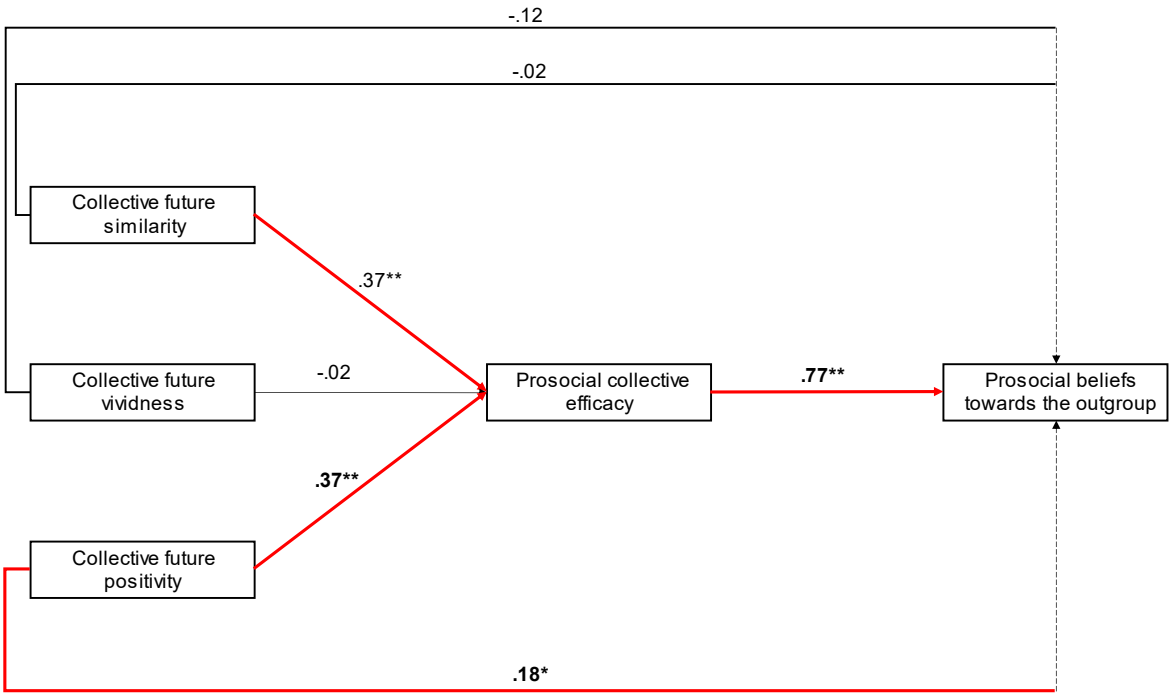
Collective angst (6)	2.12	1.24	.89	-.32**	-.31**	-.36**	-.14*	.54**

Note. M and SD represent the means and standard deviations. α represents the internal consistency coefficient for each scale. * indicates $p < .05$. ** indicates $p < .01$.

The proposed mediation model is represented in Figure 12. Collective future continuity components were included as predictors, collective angst as the mediator, prejudice towards the out-group, and prosocial intention towards the in-group as outcome variables. Using the bootstrapping procedure (Hayes, 2018), we tested the indirect effects on 10,000 bootstrapped samples. For future collective similarity, collective angst significantly mediated the effect on prejudice towards the outgroup (b = -.06, 95% CI [-.11, -.01]) but not on prosocial expectations towards the ingroup (b = .02, 95% CI [-.01, .05]). The indirect effect of collective angst was not significant when considering the relationship between future collective vividness and both outgroup prejudice (b = -.05, 95% CI [-.12, .02]) and ingroup prosocial expectations (b = .01, 95% CI [-.01, .05]). Finally, collective angst significantly mediated the effect of positivity of the future collective on out-group prejudice (b = -.07, 95% CI [-.14, -.02]), but not on expectations to behave prosocially towards the in-group (b = .02, 95% CI [-.01, .07]).

Figure 12.

Study 9: The Tested Mediation Model. Significant Paths are Marked With Bolded Red Arrows.



Note. * indicates $p < .05$, ** indicates $p < .001$

We have separately compared the mediation effects of collective angst for all three collective future continuity components. The indirect effect on outgroup prejudice was stronger than the same effect on ingroup prosocial expectations for the similarity (b = .076, 95% CI [.02, .16]) and positivity (b = .10, 95% CI [.02, .20] components. However, we found no significant differences between the indirect effects when considering vividness as the predictor variable, b = .06, 95% CI [-.02, .16].

While we found evidence that collective future continuity decreases prejudice towards the outgroup by lowering the levels of perceived collective angst, our conclusions were made from correlational data, and it is thus impossible to make causal claims about the identified effects. Furthermore, our attempt to experimentally manipulate collective future continuity was not successful. It seems that the manipulation was not strong enough to affect how participants perceive their ingroup in the future significantly. Therefore, more work is required to identify efficient experimental manipulations of collective future continuity in general and, more specifically, its components. The

application of experimental designs in studying these research questions might help to understand the causal role of collective future continuity in promoting and increasing prosociality and cooperation towards other groups in the present. We review the shortcomings of our experimental method to manipulate CFC in the concluding Chapter 4.

3.6. Discussion Chapter 3

An overview of the most significant findings follows.

3.6.1. The Structure of CFC

Previous work regarding ingroup and cultural continuity highlighted that individuals can perceive their ingroup as an unchanging entity moving on the timeline from the (distant) past to the present (Sani et al., 2007). Building from the Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1979, 2004), we emphasized that group memberships strongly shape identity formation by forming extended parts of the self-concept (Aron et al., 2004; Belk, 1988; Tian & Belk, 2005; Clayton et al., 2015). In that regard, maintaining a (positive) social self might be just as favorable as a consistent (positive) personal identity (Tropp & Wright, 2001; Wenzel et al., 2007). By reconciling the *extended self* literature with the Future self-continuity model (Hershfield, 2011), we argued that the same pathways relevant for increasing future self-continuity are also applicable when considering future continuity on the self-level. Specifically, we suggested that individuals can think about the future of their group not only in terms of change but also by considering how the group will remain the same over time.

We have labeled this construct as perceived CFC and, in Study 8, examined its underlying structure. As we expected, CFC was composed of three facets: similarity, vividness, and positivity towards the future of the in-group. Similar to the Future self-continuity model (Hershfield, 2011), it is possible to increase the perception that the in-group's culture, values, norms, and beliefs will persist in

the future using three different venues. First, people can expect little to no changes to their in-group when considering the future (*Similarity* of the future collective) by mentally comparing the present ingroup to their future state (Allen & Wilder, 1979; Chen & Kendrick, 2002; Corcoran et al., 2011; Lemay & Ryan, 2021; Mullen & Hu, 1989; Posten & Mussweiler, 2017; Roccas & Schwartz, 1993; Todd et al., 2011). Second, by being able to project themselves to the future (Daniel et al., 2015; Dassen et al., 2016; Gaesser et al., 2018; Hershfield et al., 2011; Monroe et al., 2017; Van Gelder et al., 2013, 2015; Vonasch & Sjåstad, 2021; Wu et al., 2017), they can also vividly imagine the ingroup (Bruneau et al., 2012; Crisp & Turner, 2009; Crisp et al., 2010; Lee, 2017; Ratner et al., 2014) from a future perspective (*Vividness* of the future collective). Third, the ability to evaluate future events (Hepburn et al., 2006 Newby-Clark & Ross, 2003; Ross & Newby-Clark, 1998) could help to assume a positive outlook toward the ingroup (Clement & Krueger, 1998 Pittinsky et al., 2011) and assume a positive stance of its' future (*Positivity* of the future collective).

3.6.2. CFC and Intergroup Relations

Studies focused on PCC found that perceptions of strong temporal links in the ingroups' past contributed to a greater willingness to protect the ingroup (Brewer & Pierce, 2005; Smeekes & Verkuyten, 2014) and a decreased tolerance of outgroup members (Malouida et al., 2017; Roth et al., 2018; Wohl et al., 2010). Our studies suggested a different relationship between CFC and two intergroup relations indicators. Study 8 found that the three CFC components positively correlated with outgroup prosocial beliefs (*Hypothesis 1*). In other words, increased levels of CFC similarity, vividness, and positively were related to firmer beliefs that the ingroup members *can* be prosocial towards the outgroup. In Study 9, we have extended these findings to a stronger indicator of outgroup prejudice. Once again, all three CFC facets positively affected normative prosocial expectations toward the outgroup (*Hypothesis 3*). Put differently, expecting future ingroup similarities and vividly and positively imagining it was related to greater expectations that a typical ingroup member *should* behave

prosocially towards the outgroup. In Study 9, we found no significant relationship between the CFC components and ingroup prosocial expectations, highlighting that CFC might be exclusively relevant for intergroup relations.

Therefore, our work extends the literature on self-consistency motivation (Kung et al., 2016; Mazar et al., 2008) to the group level. One might consider prosocial behavior as a strategic way to maintain a positive social identity (Cinnirella, 1998; Marques & Paez, 1994; Schmitt et al., 2000; Tajfel & Turner, 1986) in the future. Specifically, maintaining positive intergroup relations might be related to a motivation to sustain and develop the ingroups' integrity and status (Cialdini & Richardson, 1980)

3.6.3. What is different between CFC and PCC?

As our studies suggest, the three CFC components affect intergroup relations judgments differently than PCC. While both constructs highlight the ingroup as an unchanging entity over time, we hypothesized that two processes specific to CFC might explain its positive effect on outgroup attitudes. First, we expected that CFC should increase beliefs that the ingroup has cooperative capabilities in general (i.e., collective prosocial efficacy, *Hypothesis 2*) In Study 8, CFC similarity and positivity affected outgroup prosocial beliefs through greater levels of collective prosocial efficacy. Specifically, the confidence that the group can act prosocially might explain how the feeling that the in-group will not significantly change in the future might increase the tendency to believe that the in-group members can be prosocial towards their out-group counterparts. Indeed, the belief that the in-group members can cooperate with others is related to a more relaxed and open stance towards the out-group (Borinca et al., 2021; Cuadrado & Tabernero, 2015; Hellman et al., 2021). Thus, a strong belief that the in-group can behave positively towards other people might be seen as a possible strategy to maintain a positive group identity in the future (Charnysh et al., 2015; Van Leeuwen & Täuber, 2012; Van Leeuwen et al., 2013).

Second, we expected CFC to decrease feelings of group vitality endangerment (i.e., collective angst, *Hypothesis 4*). In Study 9, our results suggested that high levels of CFC might reduce negative attitudes towards out-group members through lower levels of collective angst. In other words, the perception that the core values and traditions of the in-group will persist in the future might make individuals more open to out-group members by decreasing their expectations that the in-group will be threatened in the future. This pattern of results was not identified when considering collective prosocial expectations towards the in-group. In general, fewer concerns for the in-groups' future are linked with a more positive outlook of the out-group (Falomir-Pichastor et al., 2004; Mancini et al., 2020; Spears et al., 1997; Wohl & Branscombe, 2008, Wohl et al., 2011). In that regard, CFC might increase positive behavior towards out-group members by highlighting that the future of the in-group is safe and sound.

However, we found no such mediational effects when considering the vividness component. While some studies suggest that vividness is crucial for perceiving similarity and positivity on the individual level (Bixter et al., 2020; Ganschow et al., 2021), our results imply that when considering group processes, the effect of the other two CFC components might be more substantial. In other words, while individuals can imagine the in-groups' future vividly (Bain et al., 2013; Shrikhanth et al., 2018; Yamashiro & Roediger, 2019), to become more open to the other groups, they might first need to believe that the in-groups' essential characteristics will not change and positively evaluate them.

3.6.5. Limitations and Implications of Current Research

Our findings have important implications for the nature of intergroup relations. By emphasizing that the core values, traditions, norms, and traits that individuals use to identify themselves with their in-group (s) are stable entities that will not experience significant changes in the future, one might effectively improve how people relate to out-group members. Understanding that even if times change, the general essence of the in-group will stay the same might be beneficial for individuals to be more

open and inviting toward people belonging to other groups. Knowing that the ways of the in-group will not be significantly affected by intergroup contacts could ease the tension individuals perceive when thinking about their groups' future vitality. They can be more willing to cooperate and assimilate with others in that regard.

The present work is not without its limitations. First, conclusions from both studies are made from correlational data, making causal claims about identified effects impossible. Second, both samples consisted solely of Italian participants living in Italy. Because national identity is a context-specific variable (e.g., Andreouli & Howarth, 2013; Vargas-Salfate et al., 2020), one should approach with caution when extending these results to other countries and cultures. Third, our work focused on testing the effect of CFC on prosocial beliefs and normative expectations. However, beliefs, expectations, and specific intentions do not always successfully translate into behavior (Sheeran & Webb, 2016). If CFC affects prosocial behavior in the same way, is something that should be addressed in future studies.

The recommendations for future research stem from the limitations of our current work. First, future studies should identify efficient experimental manipulations of CFC in general and, more specifically, its components. The application of experimental designs in studying these research questions might help understand the causal role of CFC in promoting and increasing prosociality and cooperation towards other groups. Second, a possible venue for future work might be to study the structure of CFC and generalize our findings in different cultural and societal contexts. Third, future studies could shift their focus from prosocial beliefs and normative expectations by measuring cooperative behavior in different economic and social dilemma games. Fourth, future studies could address how CFC relates to other issues regarding the formation and perception of different social identities, a topic that was beyond the scope of these studies. For example, there is a possibility that higher levels of CFC may result in more inclusive social identities (Brewer & Pierce, 2005; Gaertner &

Dovidio, 2000; Levine et al., 2005) or that it makes the values aspects of the in-group that individuals want to preserve more salient (Sedikides et al., 2015; Smeekes et al., 2018). In that regard, studying if and how CFC shapes how individuals organize and understand their social groups' past, present, and future might be relevant for future research. Finally, our studies conceptualized CFC in the context of national groups. Since people can also perceive continuity related to religious groups (Sani, 2005, Warner et al., 2016), organizations (Geissner et al., 2011; Warner et al., 2016), and family (Herrera et al., 2011), future studies should aim to understand the relationship between CFC and intergroup relations in different group settings.

To conclude, the present work provided evidence that perceiving the in-group as an entity that endures in the future might be beneficial to increase intergroup cooperation in the present. Expecting that the in-group traditions, values, and norms will stay the same in future times might produce fewer concerns that external agents might damage the in-group and, thus, greater openness to cooperation and helping others. The belief that our ways are not under the threat of change might make us more welcoming from others different from us.

Chapter 4: Conclusions

The set of studies included in this thesis aimed to explore the effect of future temporal continuity on the individual and group level on moral intuition, judgments, and behavior. Seven studies in Chapter 2 tested a general hypothesis that future self-similarity is positively related to moral foundations. Our results suggested that future self-similarity positively affected individualizing and binding moral foundations and that higher levels of moral identity might explain these effects. In other words, individuals feeling connected to their future self become more sensitive to present moral transgressions because they want to remain a good person in the future. It seems that the described effect was stronger when considering individualizing moral pillars.

Furthermore, our ESM study (Study 7) connected future self-similarity to a greater likelihood of acting morally, with reference to individualizing moral foundations behaviors. As mentioned previously, these results extend the literature on future self-similarity and moral transgressions to a higher, more-intuitive level of morality and a more generalized operationalization of moral behavior. Additionally, by showing that future self-similarity affects binding moral foundations (albeit with a weaker effect), it might be possible that a connection to the future self could foster ingroup consideration as well.

In Chapter 3, we introduced a novel CFC construct and aimed to connect it to outgroup prosocial beliefs and expectations. Following the Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1979, 2004) and extended self literature (Aron et al., 2004; Belk, 1988; Tian & Belk, 2005; Clayton et al., 2015) we expected that individuals become similarly attached to their ingroups' future as they become connected to their future self. Study 8 suggested that CFC follows a triarchic structure that includes the similarity, vividness, and positivity components. Additionally, in this study, we found preliminary evidence that CFC positively affects outgroup prosocial beliefs through greater levels of

perceived ingroup prosocial efficacy. Study 9 extended our findings to prosocial normative expectations and identified lower levels of collective angst as a mediator of this effect. Specifically, studies in Chapter 3 provided insights into the complex relationship between collective temporal continuity and temporal relations. This couple of studies suggest that CFC affects outgroup attitudes differently than CPC because it might a) highlight the advantages of prosocial behavior and b) lessen the fear of outside dangers to the ingroups' future vitality.

However, our work is not without its limitations. Our results suggest that our experimental manipulations failed to affect the relevant dependent variables consistently. This is particularly true for the CFC manipulation, which did not manage to increase reported CFC levels. Therefore, our conclusions remain at a correlational level since we could not yet provide evidence of causal effect in our experimental studies. Second, all our studies used a combination of a convenience and snowball sampling strategies and recruited (mostly) Italian participants. As mentioned in previous chapters, moral intuitions and concerns (AlSheddi et al., 2019; Obeid et al., 2017) and social identity construction (Andreouli & Howarth, 2013; Vargas-Salfate et al., 2020) are strongly related to cultural characteristics. Therefore, one should approach with caution when extending these results to other countries and cultures. Third, the tested mediation models were limited in that they considered the effects of a limited number of mediators. By following recent practices in mediation model development, we cannot easily exclude the significant role of other variables simply by showing that our hypothesized indirect effects were significant (Danner et al., 2015; Lemmer & Gollwitzer, 2017). The limitations of our current work open research questions that future studies could pursue.

One possible reason for inconsistent manipulation effects on moral foundations could be the limited length of the priming effect most priming experiments are plagued by (e.g., Schacter & Buckner, 1998). For example, Loersch and Payne (2014) theorize about three conditions relevant for a

successful priming effect: primes must make the priming content accessible, participants need to misattribute that content to their own thoughts about the measured dependent variable, and deem it relevant and necessary for their perceptions of the dependent measure. Although our future (and present) self manipulations made the similarities with the future self more accessible, future self-similarity might not be relevant to the content of the MFQ: it is designed to measure chronic individual differences and might be harder to manipulate. In other words, the MFQ items assessing the moral foundations might be less suspectible to priming manipulations. Therefore, one strategy to find a causal effect on moral foundations could be to employ experimental paradigms using ESM (Barrett & Barrett, 2021). Using longitudinal experimental manipulations (see Van Gelder et al., 2015) might be beneficial in establishing a causal link between future self-similarity and everyday moral concerns and behavior.

As mentioned in Section 2.10.7. our data does not allow for the exclusion of a bidirectional relationship between future self-continuity and moral foundations. Therefore, a possible future approach would be to test whether increasing moral foundation concerns might increase how we feel about our future selves. It is possible that being aware of the moral responsibility for others (Süssenbach et al., 2019) might elicit greater tendencies to protect the future self and thus exhibit greater temptations resistance (Hoffman et al., 2018).

+Our first attempt at manipulating CFC followed the future self-continuity literature (e.g., Hershfield et al., 2012) by asking participants to think and write about present/future similarities of the ingroup. However, our manipulation did not achieve its desired effect. Two problems could be related to this issue. First, a relevant manipulation needs to separate the feeling of collective continuity from the present national identity. By taking into account our work on self-continuity, it might be possible that also thinking about the present of the ingroup might make stable ingroup characteristics more salient. Second, imagining different future events might also encompass the self and extended aspects

of the self (see Conway & Pleydell-Pearce, 2000; Rubin, 2006; Tulving, 1983). Therefore, our seemingly neutral condition might have also activated thoughts about the future of the ingroup. In other words, our manipulation lacked a comparative condition that controls for a) national identity and b) future thinking. Stronger and more sophisticated methods are required to manipulate CFC effectively.

One possibility could be to follow PCC experimental studies and introduce a discontinuity condition (e.g., Iyer & Jetten, 2011; Maoulida et al., 2021; Smeekes & Verkuyten, 2014). Although it is possible that focusing on the differences automatically induces a similarity focus (Todd et al., 2011), a discontinuity condition might also persuade participants that the ingroups' future is susceptible to large and relevant changes. Therefore, a manipulation that combines visual materials highlighting stability/change with written tasks might represent a promising option for identifying an effective CFC manipulation.

Previous work highlighted CPC as a way to amplify self-continuity (Smeekes & Verkuyten, 2013) and self-esteem (Sani et al., 2008). Our studies did not attempt to disentangle and study an interdependent effect of future self-continuity and CFC. Specifically, it is possible that feeling at ease about the ingroup's future might also highlight all the ways a person might not change on the individual level. Therefore, CFC might be seen as an alternative way to battle impulsivity. Relatedly, exploring the interaction between the two aspect of temporal continuity beliefs could be relevant. For example, does CFC enhance the effect of future self-continuity on moral foundations? On the other hand, might a greater responsibility for the future self make high CFC individuals more sensitive to the rights and freedoms of the outgroup? Future studies should attempt to explore this promising venue.

4.1. Concluding Remarks

Today, we live in an ever-changing world where people are becoming more separated and less concerned about others despite common goals, knowledge, and technological advances that should

connect them. For example, the Fragile States Index (Haken et al., 2022), an assessment of a state's probability for internal or international conflict, assigned a warning label to 98 countries and listed 29 countries with high conflict alerts. The most important implication of the Fragile States Index scores is the presence of an ever-increasing political and social divide in all countries independent of their economic power and location. One of the strengths of our research is its potential to make people closer to others. If one can recognize the costs of immoral and destructive behavior towards themselves and an ingroup, they could act in a way that benefits them in the long-term. Therefore, interventions based on increasing future self (ingroup) similarities might increase moral behavior and improve intergroup relations.

To conclude, this thesis highlights the relevant role of thinking about the future of the self and the ingroup on present-day (moral) judgments and relations. It seems that thinking about the future me (we), might make us more sensitive toward others in the present. Going even further, feeling close to the future self and the future ingroup could help us be less divided in the present.

References

Adams, M. (2003). The reflexive self and culture: A critique. *The British Journal of Sociology*, *54*(2), 221–238. https://doi.org/10.1080/0007131032000080212

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions* (pp. xi, 212). Sage Publications, Inc.

Ainslie, G. (2010). The Core Process in Addictions and Other Impulses: Hyperbolic Discounting versus Conditioning and Cognitive Framing. In D. Ross, H. Kincaid, D. Spurrett, & P. Collins (Eds.), *What Is Addiction?* (p. 0). The MIT Press. https://doi.org/10.7551/mitpress/9780262513111.003.0009

Ainslie, G. (2012). Pure hyperbolic discount curves predict "eyes open" self-control. *Theory and Decision*, *73*(1), 3–34. https://doi.org/10.1007/s11238-011-9272-5

Ainslie, G. (2013). Intertemporal bargaining predicts moral behavior, even in anonymous, one-shot economic games1. *Behavioral and Brain Sciences*, *36*(1), 78–79. https://doi.org/10.1017/S0140525X12000684

Allen, V. L., & Wilder, D. A. (1979). Group Categorization and Attribution of Belief Similarity. Small Group Behavior, 10(1), 73–80. https://doi.org/10.1177/0090552679101006

Allport, G. W. (1950). *The individual and his religion: A psychological interpretation* (pp. xi, 147). Macmillan.

AlSheddi, M., Russell, S., & Hegarty, P. (2020). How does culture shape our moral identity? Moral foundations in Saudi Arabia and Britain. *European Journal of Social Psychology*, *50*(1), 97–110. https://doi.org/10.1002/ejsp.2619

Andreouli, E., & Howarth, C. (2013). National Identity, Citizenship and Immigration: Putting Identity in Context. *Journal for the Theory of Social Behaviour*, *43*(3), 361–382. https://doi.org/10.1111/j.1468-5914.2012.00501.x

Aquino, K., & Reed, A. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology*, *83*(6), 1423–1440. https://doi.org/10.1037/0022-3514.83.6.1423

Aquino, K., Freeman, D., Reed, A., Lim, V. K. G., & Felps, W. (2009). Testing a social-cognitive model of moral behavior: The interactive influence of situations and moral identity centrality. *Journal of Personality and Social Psychology*, *97*(1), 123–141. https://doi.org/10.1037/a0015406

Aquino, K., McFerran, B., & Laven, M. (2011). Moral identity and the experience of moral elevation in response to acts of uncommon goodness. *Journal of Personality and Social Psychology*, *100*(4), 703–718. https://doi.org/10.1037/a0022540

Aron, A. P., Mashek, D. J., & Aron, E. N. (2004). Closeness as Including Other in the Self. In *Handbook of closeness and intimacy* (pp. 27–41). Lawrence Erlbaum Associates Publishers.

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596–612. https://doi.org/10.1037/0022-3514.63.4.596

Ashton, M. C., & Lee, K. (2008). The HEXACO Model of Personality Structure and the Importance of the H Factor. *Social and Personality Psychology Compass*, *2*(5), 1952–1962. https://doi.org/10.1111/j.1751-9004.2008.00134.x

Assmann, J., & Czaplicka, J. (1995). Collective Memory and Cultural Identity. *New German Critique*, *65*, 125–133. https://doi.org/10.2307/488538

Atance, C. M., & O'Neill, D. K. (2001). Episodic future thinking. *Trends in Cognitive Sciences*, *5*(12), 533–539. https://doi.org/10.1016/s1364-6613(00)01804-0

Bai, H., & Federico, C. M. (2020). Corrigendum to collective existential threat mediates white population decline's effect on defensive reactions. *Group Processes & Intergroup Relations*, *23*(5), 799–799. https://doi.org/10.1177/1368430220933248

Bain, P. G., Hornsey, M. J., Bongiorno, R., Kashima, Y., & Crimston, C. R. (2013). Collective Futures: How Projections About the Future of Society Are Related to Actions and Attitudes Supporting Social Change. *Personality and Social Psychology Bulletin*, *39*(4), 523–539. https://doi.org/10.1177/0146167213478200

Balduzzi, S., Rücker, G., & Schwarzer, G. (2019). How to perform a meta-analysis with R: A practical tutorial. *Evidence-Based Mental Health*, *22*(4), 153–160. https://doi.org/10.1136/ebmental-2019-300117

Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy*, *1*(4), 139–161. https://doi.org/10.1016/0146-6402(78)90002-4

Bandura, A. (2000). Exercise of Human Agency Through Collective Efficacy. *Current Directions in Psychological Science*, *9*(3), 75–78. https://doi.org/10.1111/1467-8721.00064

Baril, G. L., & Wright, J. C. (2012). Different types of moral cognition: Moral stages versus moral foundations. *Personality and Individual Differences*, *53*, 468–473. https://doi.org/10.1016/j.paid.2012.04.018

Barkan, E. (2000). *The Guilt of Nations: Restitution and Negotiating Historical Injustices* (1st edition). W. W. Norton & Company.

Barsics, C., Van der Linden, M., & D'Argembeau, A. (2016). Frequency, characteristics, and perceived functions of emotional future thinking in daily life. *Quarterly Journal of Experimental Psychology*, *69*(2), 217–233. https://doi.org/10.1080/17470218.2015.1051560

Bartels, D. M., & Rips, L. J. (2010). Psychological connectedness and intertemporal choice. *Journal of Experimental Psychology: General*, *139*(1), 49–69. https://doi.org/10.1037/a0018062

Bartels, D. M., & Urminsky, O. (2015). To know and to care: How awareness and valuation of the future jointly shape consumer spending. *Journal of Consumer Research*, *41*, 1469–1485. https://doi.org/10.1086/680670

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software*, *67*, 1–48. https://doi.org/10.18637/jss.v067.i01

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does High Self-Esteem Cause Better Performance, Interpersonal Success, Happiness, or Healthier Lifestyles? *Psychological Science in the Public Interest*, *4*(1), 1–44. https://doi.org/10.1111/1529-1006.01431

Baumeister, R. F., Wright, B. R. E., & Carreon, D. (2019). Self-control "in the wild": Experience sampling study of trait and state self-regulation. *Self and Identity*, *18*(5), 494–528. https://doi.org/10.1080/15298868.2018.1478324

Becker, E. (1973). *The denial of death* (pp. xiv, 315). Free Press.

Becker, M., Vignoles, V. L., Owe, E., Easterbrook, M. J., Brown, R., Smith, P. B., Abuhamdeh, S., Cendales Ayala, B., Garðarsdóttir, R. B., Torres, A., Camino, L., Bond, M. H., Nizharadze, G., Amponsah, B., Schweiger Gallo, I., Prieto Gil, P., Lorente Clemares, R., Campara, G., Espinosa, A., … Lay, S. (2018). Being oneself through time: Bases of self-continuity across 55 cultures. *Self and Identity*, *17*(3), 276–293. https://doi.org/10.1080/15298868.2017.1330222

Belk, R. W. (1988). Possessions and the Extended Self. *Journal of Consumer Research*, *15*(2), 139–168. https://doi.org/10.1086/209154

Ben-Shachar et al., (2020). effectsize: Estimation of Effect Size Indices and Standardized Parameters. *Journal of Open Source Software*, *5*(56), 2815, https://doi.org/10.21105/joss.02815

Bernaards, C. A., & Jennrich, R. I. (2005). Gradient Projection Algorithms and Software for Arbitrary Rotation Criteria in Factor Analysis. *Educational and Psychological Measurement*, *65*(5), 676–696. https://doi.org/10.1177/0013164404272507

Berry, J. W. (2003). Conceptual approaches to acculturation. In *Acculturation: Advances in theory, measurement, and applied research* (pp. 17–37). American Psychological Association. https://doi.org/10.1037/10472-004

Billig, M., & Tajfel, H. (1973). Social categorization and similarity in intergroup behaviour. *European Journal of Social Psychology*, *3*(1), 27–52. https://doi.org/10.1002/ejsp.2420030103

Bixter, M. T., McMichael, S. L., Bunker, C. J., Adelman, R. M., Okun, M. A., Grimm, K. J., Graudejus, O., & Kwan, V. S. Y. (2020). A test of a triadic conceptualization of future self-identification. *PLOS ONE*, *15*(11), e0242504. https://doi.org/10.1371/journal.pone.0242504

Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin*, *88*(1), 1–45. https://doi.org/10.1037/0033-2909.88.1.1

Bloch, M. (1971). *Placing the dead: Tombs, ancestral villages and kinship organization in Madagascar* (First Edition). Seminar Press Ltd.

Block, J. (1961). Ego identity, role variability, and adjustment. *Journal of Consulting Psychology*, *25*(5), 392–397. https://doi.org/10.1037/h0042979

Bó, E. D., & Terviö, M. (2013). Self-Esteem, Moral Capital, and Wrongdoing. *Journal of the European Economic Association*, *11*(3), 599–663. https://doi.org/10.1111/jeea.12012

Bobbio, A., Nencini, A., & Sarrica, M. (2011). Il Moral Foundation Questionnaire: Analisi della struttura fattoriale della versione Italiana. *Giornale Di Psicologia*, *5*(1–2), 7–18.

Boegershausen, J., Aquino, K., & Reed, A. (2015). Moral identity. *Current Opinion in Psychology*, *6*, 162–166. https://doi.org/10.1016/j.copsyc.2015.07.017

Borinca, I., Andrighetto, L., Valsecchi, G., & Berent, J. (2021). Ingroup norms shape understanding of outgroup prosocial behaviors. *Group Processes & Intergroup Relations*, 1368430220987604. https://doi.org/10.1177/1368430220987604

Branscombe, N. R., Wann, D. L., Noel, J. G., & Coleman, J. (1993). In-Group or Out-Group Extemity: Importance of the Threatened Social Identity. *Personality and Social Psychology Bulletin*, *19*(4), 381–388. https://doi.org/10.1177/0146167293194003

Brewer, M. B., & Pierce, K. P. (2005). Social Identity Complexity and Outgroup Tolerance. *Personality and Social Psychology Bulletin*, *31*(3), 428–437. https://doi.org/10.1177/0146167204271710

Brewer, W. F., & Treyens, J. C. (1981). Role of schemata in memory for places. *Cognitive Psychology*, *13*(2), 207–230. https://doi.org/10.1016/0010-0285(81)90008-6

Bruneau, E. G., Dufour, N., & Saxe, R. (2012). Social cognition in members of conflict groups: Behavioural and neural responses in Arabs, Israelis and South Americans to each other's misfortunes. Philosophical Transactions of the Royal Society B: Biological Sciences, 367(1589), 717–730. https://doi.org/10.1098/rstb.2011.0293

Burns, Z. C., Caruso, E. M., & Bartels, D. M. (2012). Predicting premeditation: Future behavior is seen as more intentional than past behavior. *Journal of Experimental Psychology. General*, *141*(2), 227–232. https://doi.org/10.1037/a0024861

Burum, B. A., Gilbert, D. T., & Wilson, T. D. (2016). Becoming stranger: When future selves join the out-group. *Journal of Experimental Psychology: General*, *145*(9), 1132–1140. https://doi.org/10.1037/xge0000193

Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A New Scale for Measuring Adults' Prosocialness. *European Journal of Psychological Assessment*, *21*(2), 77–89. https://doi.org/10.1027/1015-5759.21.2.77

Caruso, E. M. (2010). When the future feels worse than the past: A temporal inconsistency in moral judgment. *Journal of Experimental Psychology. General*, *139*(4), 610–624. https://doi.org/10.1037/a0020757

Cast, A. D., & Burke, P. J. (2002). A theory of self-esteem. *Social Forces*, *80*, 1041–1068. https://doi.org/10.1353/sof.2002.0003

Charnysh, V., Lucas, C., & Singh, P. (2015). The Ties That Bind: National Identity Salience and Pro-Social Behavior Toward the Ethnic Other. *Comparative Political Studies*, *48*(3), 267–300. https://doi.org/10.1177/0010414014543103

Chen, F. F., & Kenrick, D. T. (2002). Repulsion or attraction? Group membership and assumed attitude similarity. Journal of Personality and Social Psychology, 83, 111–125. https://doi.org/10.1037/0022-3514.83.1.111

Chen, H., Cohen, P., & Chen, S. (2010). How Big is a Big Odds Ratio? Interpreting the Magnitudes of Odds Ratios in Epidemiological Studies. *Communications in Statistics - Simulation and Computation*, *39*(4), 860–864. https://doi.org/10.1080/03610911003650383

Cheung, M. W.-L. (2014). Modeling dependent effect sizes with three-level meta-analyses: A structural equation modeling approach. *Psychological Methods*, *19*(2), 211–229. https://doi.org/10.1037/a0032968

Cheung, M. W.-L. (2015). metaSEM: An R package for meta-analysis using structural equation modeling. *Frontiers in Psychology*, *5*. https://www.frontiersin.org/article/10.3389/fpsyg.2014.01521

Cheung, W.-Y., Sedikides, C., & Wildschut, T. (2017). Nostalgia proneness and reduced prejudice. *Personality and Individual Differences*, *109*, 89–97. https://doi.org/10.1016/j.paid.2016.12.045

Chishima, Y., Huai-Ching Liu, I.-T., & E Wilson, A. (2021). Temporal distancing during the COVID-19 pandemic: Letter writing with future self can mitigate negative affect. *Applied Psychology. Health and Well-Being*, *13*(2), 406–418. https://doi.org/10.1111/aphw.12256

Cialdini, R. B., & Richardson, K. D. (1980). Two indirect tactics of image management: Basking and blasting. *Journal of Personality and Social Psychology*, *39*, 406–415. https://doi.org/10.1037/0022-3514.39.3.406

Cinnirella, M. (1998). Exploring temporal aspects of social identity: The concept of possible social identities. *European Journal of Social Psychology*, *28*(2), 227–248. https://doi.org/10.1002/(SICI)1099-0992(199803/04)28:2<227::AID-EJSP866>3.0.CO;2-X

Clayton, R. B., Leshner, G., & Almond, A. (2015). The Extended iSelf: The Impact of iPhone Separation on Cognition, Emotion, and Physiology. *Journal of Computer-Mediated Communication*, *20*(2), 119–135. https://doi.org/10.1111/jcc4.12109

Clement, R. W., & Krueger, J. (1998). Liking persons versus liking groups: A dual-process hypothesis. European Journal of Social Psychology, 28(3), 457–469. https://doi.org/10.1002/(SICI)1099-0992(199805/06)28:3<457::AID-EJSP880>3.0.CO;2-T

Clifford, S., Iyengar, V., Cabeza, R., & Sinnott-Armstrong, W. (2015). Moral foundations vignettes: A standardized stimulus database of scenarios based on moral foundations theory. Behavior Research Methods, 47(4), 1178–1198. https://doi.org/10.3758/s13428-014-0551-2

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). L. Erlbaum Associates.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, *107*(2), 261–288. https://doi.org/10.1037/0033-295x.107.2.261

Conway, P., & Peetz, J. (2012). When Does Feeling Moral Actually Make You a Better Person? Conceptual Abstraction Moderates Whether Past Moral Deeds Motivate Consistency or Compensatory Behavior. *Personality and Social Psychology Bulletin*, *38*(7), 907–919. https://doi.org/10.1177/0146167212442394

Corcoran, K., Crusius, J., & Mussweiler, T. (2011). Social comparison: Motives, standards, and mechanisms. In *Theories in social psychology* (pp. 119–139). Wiley Blackwell.

Cornelissen, G., Bashshur, M. R., Rode, J., & Le Menestrel, M. (2013). Rules or Consequences? The Role of Ethical Mind-Sets in Moral Dynamics. *Psychological Science*, *24*(4), 482–488. https://doi.org/10.1177/0956797612457376

Coutts, J. J., & Hayes, A. F. (2022). Questions of value, questions of magnitude: An exploration and application of methods for comparing indirect effects in multiple mediator models. *Behavior Research Methods*. https://doi.org/10.3758/s13428-022-01988-0

Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions? Reducing prejudice through simulated social contact. The American Psychologist, 64(4), 231–240. https://doi.org/10.1037/a0014718

Crisp, R. J., Husnu, S., Meleady, R., Stathi, S., & Turner, R. N. (2010). From imagery to intention: A dual route model of imagined contact effects. European Review of Social Psychology, 21(1), 188–236. https://doi.org/10.1080/10463283.2010.543312

Croote, D. E., Lai, B., Hu, J., Baxter, M. G., Montagrin, A., & Schiller, D. (2020). Delay discounting decisions are linked to temporal distance representations of world events across cultures. *Scientific Reports*, *10*(1), Article 1. https://doi.org/10.1038/s41598-020-69700-w

Crusius, J., & Mussweiler, T. (2012). To achieve or not to achieve? Comparative mindsets elicit assimilation and contrast in goal priming. *European Journal of Social Psychology*, *42*(6), 780–788. https://doi.org/10.1002/ejsp.873

Crusius, J., & Mussweiler, T. (2012). When people want what others have: The impulsive side of envious desire. *Emotion*, *12*, 142–153. https://doi.org/10.1037/a0023523

Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous and Mental Disease*, *175*, 526–536. https://doi.org/10.1097/00005053-198709000-00004

Cuadrado, E., & Tabernero, C. (2015). Affective Balance, Team Prosocial Efficacy and Team Trust: A Multilevel Analysis of Prosocial Behavior in Small Groups. *PLOS ONE*, *10*(8), e0136874. https://doi.org/10.1371/journal.pone.0136874

Cuadrado, E., Tabernero, C., & Steinel, W. (2016). Determinants of Prosocial Behavior in Included Versus Excluded Contexts. *Frontiers in Psychology*, *6*, 2001. https://doi.org/10.3389/fpsyg.2015.02001

Curran, P. J., & Bauer, D. J. (2011). The Disaggregation of Within-Person and Between-Person Effects in Longitudinal Models of Change. *Annual Review of Psychology*, *62*(1), 583–619. https://doi.org/10.1146/annurev.psych.093008.100356

Curran, P. J., Lee, T., Howard, A. L., Lane, S., & MacCallum, R. (2012). Disaggregating within-person and between-person effects in multilevel and structural equation growth models. In *Advances in longitudinal methods in the social and behavioral sciences* (pp. 217–253). IAP Information Age Publishing.

D'Argembeau, A., Ortoleva, C., Jumentier, S., & Van der Linden, M. (2010). Component processes underlying future thinking. *Memory & Cognition*, *38*(6), 809–819. https://doi.org/10.3758/MC.38.6.809

Daniel, T. O., Said, M., Stanton, C. M., & Epstein, L. H. (2015). Episodic future thinking reduces delay discounting and energy intake in children. *Eating Behaviors*, *18*, 20–24. https://doi.org/10.1016/j.eatbeh.2015.03.006

Daniel, T. O., Said, M., Stanton, C. M., & Epstein, L. H. (2015). Episodic future thinking reduces delay discounting and energy intake in children. *Eating Behaviors*, *18*, 20–24. https://doi.org/10.1016/j.eatbeh.2015.03.006

Danner, D., Hagemann, D., & Fiedler, K. (2015). Mediation analysis with structural equation models: Combining theory, design, and statistics. *European Journal of Social Psychology*, *45*(4), 460–481. https://doi.org/10.1002/ejsp.2106

Dassen, F. C. M., Jansen, A., Nederkoorn, C., & Houben, K. (2016). Focus on the future: Episodic future thinking reduces discount rate and snacking. *Appetite*, *96*, 327–332. https://doi.org/10.1016/j.appet.2015.09.032

Dassen, F. C. M., Jansen, A., Nederkoorn, C., & Houben, K. (2016). Focus on the future: Episodic future thinking reduces discount rate and snacking. *Appetite*, *96*, 327–332. https://doi.org/10.1016/j.appet.2015.09.032

Dawson, K. J., Han, H., & Choi, Y. R. (2021). How are moral foundations associated with empathic traits and moral identity? *Current Psychology*. https://doi.org/10.1007/s12144-021-02372-5

de Zavala, A. G., Cichocka, A., Eidelson, R., & Jayawickreme, N. (2009). Collective narcissism and its social consequences. *Journal of Personality and Social Psychology*, *97*(6), 1074–1096. https://doi.org/10.1037/a0016904

de Zavala, A. G., Cichocka, A., Eidelson, R., & Jayawickreme, N. (2009). Collective narcissism and its social consequences. *Journal of Personality and Social Psychology*, *97*(6), 1074–1096. https://doi.org/10.1037/a0016904

Dehghani, M., Niaki, M. K., Ramezani, I., & Sali, R. (2016). Evaluating the influence of YouTube advertising for attraction of young customers. Computers in Human Behavior, 59, 165–172. https://doi.org/10.1016/j.chb.2016.01.037

Diener, E., & Diener, M. (2009). Cross-Cultural Correlates of Life Satisfaction and Self-Esteem. In E. Diener (Ed.), *Culture and Well-Being: The Collected Works of Ed Diener* (pp. 71–91). Springer Netherlands. https://doi.org/10.1007/978-90-481-2352-0_4

Diener, E., Fraser, S. C., Beaman, A. L., & Kelem, R. T. (1976). Effects of deindividuation variables on stealing among Halloween trick-or-treaters. *Journal of Personality and Social Psychology*, *33*(2), 178–183. https://doi.org/10.1037/0022-3514.33.2.178

Dunkel, C. S. (2005). The Relation Between Self-Continuity and Measures of Identity. *Identity: An International Journal of Theory and Research*, *5*, 21–34. https://doi.org/10.1207/s1532706xid0501_2

Durham, C. C., Knight, D., & Locke, E. A. (1997). Effects of Leader Role, Team-Set Goal Difficulty, Efficacy, and Tactics on Team Effectiveness. *Organizational Behavior and Human Decision Processes*, *72*(2), 203–231. https://doi.org/10.1006/obhd.1997.2739

Earley, P. C. (1994). Self or group? Cultural effects of training on self-efficacy and performance. *Administrative Science Quarterly*, *39*, 89–117. https://doi.org/10.2307/2393495

Eisele, G., Lafit, G., Vachon, H., Kuppens, P., Houben, M., Myin-Germeys, I., & Viechtbauer, W. (2021). Affective structure, measurement invariance, and reliability across different experience sampling protocols. *Journal of Research in Personality*, *92*, 104094. https://doi.org/10.1016/j.jrp.2021.104094

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin*, *101*, 91–119. https://doi.org/10.1037/0033-2909.101.1.91

Elster, J. (1985). Sadder but wiser? Rationality and the emotions. *Social Science Information*, *24*(2), 375–406. https://doi.org/10.1177/053901885024002012

Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and Decision Making*, *4*(4), 280–286.

Ersner-Hershfield, H., Wimmer, G. E., & Knutson, B. (2009). Saving for the future self: Neural measures of future self-continuity predict temporal discounting. *Social Cognitive and Affective Neuroscience*, *4*(1), 85–92. https://doi.org/10.1093/scan/nsn042

Escobedo, J. R., & Adolphs, R. (2010). Becoming a better person: Temporal remoteness biases autobiographical memories for moral events. *Emotion*, *10*(4), 511–518. https://doi.org/10.1037/a0018723

Falomir-Pichastor, J. M., Muñoz-Rojas, D., Invernizzi, F., & Mugny, G. (2004). Perceived in-group threat as a factor moderating the influence of in-group norms on discrimination against foreigners. *European Journal of Social Psychology*, *34*(2), 135–153. https://doi.org/10.1002/ejsp.189

Fehr, R., Yam, K. C. (Sam), & Dang, C. (2015). Moralized Leadership: The Construction and Consequences of Ethical Leader Perceptions. Academy of Management Review, 40(2), 182–209. https://doi.org/10.5465/amr.2013.0358

Feldman, G. (2021). Personal Values and Moral Foundations: Examining Relations and Joint Prediction of Moral Variables. *Social Psychological and Personality Science*, *12*(5), 676–686. https://doi.org/10.1177/1948550620933434

Fernández-Ballesteros, R., Díez-Nicolás, J., Caprara, G. V., Barbaranelli, C., & Bandura, A. (2002). Determinants and Structural Relation of Personal Efficacy to Collective Efficacy. *Applied Psychology*, *51*(1), 107–125. https://doi.org/10.1111/1464-0597.00081

Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology*, *47*(6), 1231–1236. https://doi.org/10.1016/j.jesp.2011.05.007

Franks, A. S., & Scherr, K. C. (2015). Using moral foundations to predict voting behavior: Regression models from the 2012 U.S. Presidential election. Analyses of Social Issues and Public Policy (ASAP), 15, 213–232. https://doi.org/10.1111/asap.12074

Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). Time Discounting and Time Preference: A Critical Review. *Journal of Economic Literature*, *40*(2), 351–401. https://doi.org/10.1257/002205102320161311

Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal Levels and Self-Control. *Journal of Personality and Social Psychology*, *90*(3), 351–367. https://doi.org/10.1037/0022-3514.90.3.351

Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model*. (pp. xiii, 212). Psychology Press.

Gaesser, B., Keeler, K., & Young, L. (2018). Moral imagination: Facilitating prosocial decision-making through scene imagery and theory of mind. *Cognition*, *171*, 180–193. https://doi.org/10.1016/j.cognition.2017.11.004

Galak, J., Small, D., & Stephen, A. T. (2011). Microfinance Decision Making: A Field Study of Prosocial Lending. *Journal of Marketing Research*, *48*(SPL), S130–S137. https://doi.org/10.1509/jmkr.48.SPL.S130

Ganschow, B., Cornet, L., Zebel, S., & van Gelder, J.-L. (2021). Looking Back From the Future: Perspective Taking in Virtual Reality Increases Future Self-Continuity. *Frontiers in Psychology*, *12*. https://www.frontiersin.org/article/10.3389/fpsyg.2021.664687

Giessner, S. R., Ullrich, J., & van Dick, R. (2011). Social Identity and Corporate Mergers. *Social and Personality Psychology Compass*, *5*(6), 333–345. https://doi.org/10.1111/j.1751-9004.2011.00357.x

Gino, F., Schweitzer, M. E., Mead, N. L., & Ariely, D. (2011). Unable to resist temptation: How self-control depletion promotes unethical behavior. *Organizational Behavior and Human Decision Processes*, *115*(2), 191–203. https://doi.org/10.1016/j.obhdp.2011.03.001

Gneezy, U. (2005). Deception: The Role of Consequences. *American Economic Review*, *95*(1), 384–394. https://doi.org/10.1257/0002828053828662

Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini Meta-Analysis of Your Own Studies: Some Arguments on Why and a Primer on How. *Social and Personality Psychology Compass*, *10*(10), 535–549. https://doi.org/10.1111/spc3.12267

Graeber, D. (1995). Dancing with corpses reconsidered: An interpretation of famadihana (in Arivonimamo, Madagascar). *American Ethnologist*, *22*(2), 258–278. https://doi.org/10.1525/ae.1995.22.2.02a00030

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of MFs. *Journal of Personality and Social Psychology*, *96*(5), 1029–1046. https://doi.org/10.1037/a0015141

Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Chapter Two - Moral Foundations Theory: The Pragmatic Validity of Moral Pluralism. In P. Devine & A. Plant (Eds.), *Advances in Experimental Social Psychology* (Vol. 47, pp. 55–130). Academic Press. https://doi.org/10.1016/B978-0-12-407236-7.00002-4

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the Moral Domain. *Journal of Personality and Social Psychology*, *101*(2), 366–385. https://doi.org/10.1037/a0021847

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*(4), 814–834. https://doi.org/10.1037/0033-295X.108.4.814

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*, 814–834. https://doi.org/10.1037/0033-295X.108.4.814

Haidt, J. (2008). Morality. *Perspectives on Psychological Science*, *3*(1), 65–72. https://doi.org/10.1111/j.1745-6916.2008.00063.x

Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion* (pp. xvii, 421). Pantheon/Random House.

Haidt, J., & Graham, J. (2007). When Morality Opposes Justice: Conservatives Have Moral Intuitions that Liberals may not Recognize. *Social Justice Research*, *20*(1), 98–116. https://doi.org/10.1007/s11211-007-0034-z

Haidt, J., & Joseph, C. (2004). Intuitive Ethics: How Innately Prepared Intuitions Generate Culturally Variable Virtues. *Daedalus*, *133*(4), 55–66.

Haidt, J., Graham, J., & Joseph, C. (2009). Above and below left–right: Ideological narratives and moral foundations. *Psychological Inquiry*, *20*, 110–119. https://doi.org/10.1080/10478400903028573

Haken, N., Woodburn, D., Gallo-Carelli, J., Cooper, A., Moglen, D. S., Faborode, J,. Asfaw, Y., Wilson, W., Turner, P., Duvor, C., Nyukechen, E., Reece, N., Waterworth, M., Fiertz, N., Taft,

P., Madden, J., Sample, E., Silveira, N., Tomusiak, A., Miller, R. (2022). *Fragile States Index Annual Report 2022*. The Fund for Peace.

Halbwachs, M. (1992). *On collective memory*. The University of Chicago Press.

Hamaker, E. L. (2012). Why researchers should think "within-person": A paradigmatic rationale. In *Handbook of research methods for studying daily life* (pp. 43–61). The Guilford Press.

Hardy, S. A., & Carlo, G. (2005). Identity as a Source of Moral Motivation. *Human Development*, *48*, 232–256. https://doi.org/10.1159/000086859

Hardy, S. A., & Carlo, G. (2011). Moral identity: What is it, how does it develop, and is it linked to moral action? *Child Development Perspectives*, *5*, 212–218. https://doi.org/10.1111/j.1750-8606.2011.00189.x

Haslam, N., Bastian, B., & Bissett, M. (2004). Essentialist Beliefs about Personality and Their Implications. *Personality and Social Psychology Bulletin*, *30*(12), 1661–1673. https://doi.org/10.1177/0146167204271182

Hattie, J. (2016). *Visible Learning for teachers: Maximizing impact on learning*. Thousand Oaks

Hauser, M. (2006). *Moral minds: How nature designed our universal sense of right and wrong* (pp. xx, 489). Ecco/HarperCollins Publishers.

Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis, Second Edition: A Regression-Based Approach*. Guilford Publications.

He, H., Zhu, W., & Zheng, X. (2014). Procedural Justice and Employee Engagement: Roles of Organizational Identification and Moral Identity Centrality. *Journal of Business Ethics*, *122*(4), 681–695. https://doi.org/10.1007/s10551-013-1774-3

Hellmann, D. M., Fiedler, S., & Glöckner, A. (2021). Altruistic Giving Toward Refugees: Identifying Factors That Increase Citizens' Willingness to Help. *Frontiers in Psychology*, *12*, 689184. https://doi.org/10.3389/fpsyg.2021.689184

Hepburn, S. R., Barnhofer, T., & Williams, J. M. G. (2006). Effects of mood on how future events are generated and perceived. *Personality and Individual Differences*, *41*(5), 801–811. https://doi.org/10.1016/j.paid.2006.03.022

Herrera, M., Sani, F., & Bowe, M. (2011). Perceived family continuity: Implications for family identification and psychological well-being. *International Journal of Social Psychology*, *26*(3), 387–399. https://doi.org/10.1174/021347411797361275

Hershfield, H. E. (2011). Future self-continuity: How conceptions of the future self transform intertemporal choice. *Annals of the New York Academy of Sciences*, *1235*, 30–43. https://doi.org/10.1111/j.1749-6632.2011.06201.x

Hershfield, H. E. (2011). Future self-continuity: How conceptions of the future Self transform intertemporal choice. *Annals of the New York Academy of Sciences*, *1235*(1), 30–43. https://doi.org/10.1111/j.1749-6632.2011.06201.x

Hershfield, H. E., Cohen, T. R., & Thompson, L. (2012). Short horizons and tempting situations: Lack of continuity to our future selves leads to unethical decision making and behavior. *Organizational Behavior and Human Decision Processes*, *117*(2), 298–310. https://doi.org/10.1016/j.obhdp.2011.11.002

Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing Saving Behavior Through Age-Progressed Renderings of the Future Self: *Journal of Marketing Research*. https://doi.org/10.1509/jmkr.48.SPL.S23

Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing Saving Behavior Through Age-Progressed Renderings of the Future Self. *Journal of Marketing Research*, *48*(SPL), S23–S37. https://doi.org/10.1509/jmkr.48.SPL.S23

Hershfield, H.E. & A.D. Galinsky. 2011. *Respect for the Elderly Predicts National Savings and Individual Saving Decisions*. Northwestern University.

Hertz, S. G., & Krettenauer, T. (2016). Does Moral Identity Effectively Predict Moral Behavior?: A Meta-Analysis. *Review of General Psychology*, *20*(2), 129–140. https://doi.org/10.1037/gpr0000062

Hilbig, B. E., Glöckner, A., & Zettler, I. (2014). Personality and prosocial behavior: Linking basic traits and social value orientations. *Journal of Personality and Social Psychology*, *107*, 529–539. https://doi.org/10.1037/a0036074

Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent Preferences and Consumer Self-Control. *Journal of Consumer Research*, *17*(4), 492–507. https://doi.org/10.1086/208573

Hodges, L., & Carron, A. V. (1992). Collective efficacy and group performance. *International Journal of Sport Psychology*, *23*, 48–59.

Hoffman, L., & Stawski, R. S. (2009). Persons as contexts: Evaluating between-person and within-person effects in longitudinal analysis. *Research in Human Development*, *6*, 97–120. https://doi.org/10.1080/15427600902911189

Hofmann, W., Brandt, M. J., Wisneski, D. C., Rockenbach, B., & Skitka, L. J. (2018). Moral Punishment in Everyday Life. *Personality and Social Psychology Bulletin*, *44*(12), 1697–1711. https://doi.org/10.1177/0146167218775075

Hofmann, W., Brandt, M. J., Wisneski, D. C., Rockenbach, B., & Skitka, L. J. (2018). Moral Punishment in Everyday Life. Personality and Social Psychology Bulletin, 44(12), 1697–1711. https://doi.org/10.1177/0146167218775075

Hofmann, W., Wisneski, D. C., Brandt, M. J., & Skitka, L. J. (2014). Morality in everyday life. *Science*, *345*(6202), 1340–1343. https://doi.org/10.1126/science.1251560

Hofmann, W., Wisneski, D. C., Brandt, M. J., & Skitka, L. J. (2014). Morality in everyday life. Science, 345(6202), 1340–1343. https://doi.org/10.1126/science.1251560

Hopkins, N., Reicher, S., Harrison, K., Cassidy, C., Bull, R., & Levine, M. (2007). Helping to Improve the Group Stereotype: On the Strategic Dimension of Prosocial Behavior. *Personality and Social Psychology Bulletin*, *33*(6), 776–788. https://doi.org/10.1177/0146167207301023

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, *30*(2), 179–185. https://doi.org/10.1007/BF02289447

Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, *15*(4), 309–334. https://doi.org/10.1037/a0020761

Iyer, A., & Jetten, J. (2011). What's left behind: Identity continuity moderates the effect of nostalgia on well-being and life choices. Journal of Personality and Social Psychology, 101, 94–108. https://doi.org/10.1037/a0022496

James, W. (1890). *The principles of psychology, Vol I.* (pp. xii, 697). Henry Holt and Co. https://doi.org/10.1037/10538-000

Jennings, P. L., Mitchell, M. S., & Hannah, S. T. (2015). The moral self: A review and integration of the literature. *Journal of Organizational Behavior*, *36*(S1), S104–S168. https://doi.org/10.1002/job.1919

Jetten, J., & Wohl, M. J. A. (2012). The past as a determinant of the present: Historical continuity, collective angst, and opposition to immigration. *European Journal of Social Psychology*, *42*(4), 442–450. https://doi.org/10.1002/ejsp.865

Johnson, E. A., & Nozick, K. J. (2011). Personality, Adjustment, and Identity Style Influences on Stability in Identity and Self-Concept During the Transition to University. *Identity*, *11*(1), 25–46. https://doi.org/10.1080/15283488.2011.540737

Jonason, P. K., Strosser, G. L., Kroll, C. H., Duineveld, J. J., & Baruffi, S. A. (2015). Valuing myself over others: The Dark Triad traits and moral and social values. *Personality and Individual Differences*, *81*, 102–106. https://doi.org/10.1016/j.paid.2014.10.045

Joosten, A., van Dijke, M., Van Hiel, A., & De Cremer, D. (2014). Feel Good, Do-Good!? On Consistency and Compensation in Moral Self-Regulation. *Journal of Business Ethics*, *123*(1), 71–84.

Jordan, J., Mullen, E., & Murnighan, J. K. (2011). Striving for the Moral Self: The Effects of Recalling Past Moral Actions on Future Moral Behavior. *Personality and Social Psychology Bulletin*, *37*(5), 701–713. https://doi.org/10.1177/0146167211400208

Judge, M., & Wilson, M. S. (2015). Vegetarian Utopias: Visions of dietary patterns in future societies and support for social change. *Futures*, *71*, 57–69. https://doi.org/10.1016/j.futures.2015.07.005

Kassambara, A. (2020). *rstatix: Pipe-Friendly Framework for Basic Statistical Tests*. R package version 0.6.0. https://CRAN.R-project.org/package=rstatix

King, G., Tomz, M., & Wittenberg, J. (2000). Making the Most of Statistical Analyses: Improving Interpretation and Presentation. *American Journal of Political Science*, *44*, 341–355.

Kirby, K. N. (1997). Bidding on the future: Evidence against normative discounting of delayed rewards. *Journal of Experimental Psychology: General*, *126*, 54–70. https://doi.org/10.1037/0096-3445.126.1.54

Kirby, K. N., & Maraković, N. N. (1995). Modeling Myopic Decisions: Evidence for Hyperbolic Delay-Discounting within Subjects and Amounts. *Organizational Behavior and Human Decision Processes*, *64*(1), 22–30. https://doi.org/10.1006/obhd.1995.1086

Kogut, T., & Ritov, I. (2011). The Identifiable Victim Effect: Causes and Boundary Conditions. In D. M. Oppenheimer & C. Y. Olivola (Eds.), *The Science of Giving* (pp. 133–146). Taylor and Francis. https://doi.org/10.4324/9780203865972-17

Kohlberg, L. (1969). Stage and Sequence: The Cognitive Developmental Approach to Socialization. In D. Goslin, (Ed.), *Handbook of Socialization Theory and Research* (pp. 347-480). Rand McNally.

Kouchaki, M., & Gino, F. (2016). Memories of unethical actions become obfuscated over time. *Proceedings of the National Academy of Sciences*, *113*(22), 6166–6171. https://doi.org/10.1073/pnas.1523586113

Kroneisen, M., & Heck, D. W. (2020). Interindividual Differences in the Sensitivity for Consequences, Moral Norms, and Preferences for Inaction: Relating Basic Personality Traits to the CNI Model. *Personality & Social Psychology Bulletin*, *46*(7), 1013–1026. https://doi.org/10.1177/0146167219893994

Kung, F. Y. H., Eibach, R. P., & Grossmann, I. (2016). Culture, Fixed-World Beliefs, Relationships, and Perceptions of Identity Change. *Social Psychological and Personality Science*, *7*(7), 631–639. https://doi.org/10.1177/1948550616652208

Kuppens, P., & Myin-Germeys, I. (n.d.). Possible research questions that can be answered with ESM research. In I. Myin-Germeys & P. Kuppens (Eds.), *The open handbook of experience sampling methodology: A step-by-step guide to designing, conducting, and analyzing ESM studies* (pp. 21–32). Center for Research on Experience Sampling and Ambulatory Methods Leuven.

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2017). lmerTest Package: Tests in Linear Mixed Effects Models. *Journal of Statistical Software*, *82*, 1–26. https://doi.org/10.18637/jss.v082.i13

Lalonde, R. N. (2002). Testing the social identity-intergroup differentiation hypothesis: 'We're not American eh!' *British Journal of Social Psychology*, *41*(4), 611–630. https://doi.org/10.1348/014466602321149902

Lapp, L. K., & Spaniol, J. (2017). Impact of age-relevant goals on future thinking in younger and older adults. *Memory*, *25*, 1246–1259. https://doi.org/10.1080/09658211.2017.1284240

Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of Personality and Social Psychology*, *93*(2), 234–249. https://doi.org/10.1037/0022-3514.93.2.234

Leavitt, K., Zhu, L., & Aquino, K. (2016). Good Without Knowing it: Subtle Contextual Cues can Activate Moral Identity and Reshape Moral Intuition. *Journal of Business Ethics*, *137*(4), 785–800. https://doi.org/10.1007/s10551-015-2746-6

Lee Pe, M., Kircanski, K., Thompson, R. J., Bringmann, L. F., Tuerlinckx, F., Mestdagh, M., Mata, J., Jaeggi, S. M., Buschkuehl, M., Jonides, J., Kuppens, P., & Gotlib, I. H. (2015). Emotion-Network Density in Major Depressive Disorder. *Clinical Psychological Science : A Journal of*

the Association for Psychological Science, *3*(2), 292–300. https://doi.org/10.1177/2167702614540645

Lee, A. R. (2017). Psychological proximity to issues of the elderly: The role of age-morphing technology in campaigns for the elderly. Computers in Human Behavior, 69, 311–323. https://doi.org/10.1016/j.chb.2016.12.046

Lemay, E. P., & Ryan, J. E. (2021). Common Ingroup Identity, Perceived Similarity, and Communal Interracial Relationships. Personality and Social Psychology Bulletin, 47(6), 985–1003. https://doi.org/10.1177/0146167220953984

Lemmer, G., & Gollwitzer, M. (2017). The "true" indirect effect won't (always) stand up: When and why reverse mediation testing fails. *Journal of Experimental Social Psychology*, *69*, 144–149. https://doi.org/10.1016/j.jesp.2016.05.002

Levine, M., Prosser, A., Evans, D., & Reicher, S. (2005). Identity and Emergency Intervention: How Social Group Membership and Inclusiveness of Group Boundaries Shape Helping Behavior. *Personality and Social Psychology Bulletin*, *31*(4), 443–453. https://doi.org/10.1177/0146167204271651

Loersch, C., & Payne, B. K. (2014). Situated Inferences and the What, Who, and Where of Priming. *Social Cognition*, *32*(Supplement), 137–151. https://doi.org/10.1521/soco.2014.32.supp.137

Loewenstein, G. (1996). Out of Control: Visceral Influences on Behavior. *Organizational Behavior and Human Decision Processes*, *65*(3), 272–292. https://doi.org/10.1006/obhd.1996.0028

Long, J.A. (2019). *jtools: Analysis and Presentation of Social Scientific Data*. https://cran.r-project.org/package=jtools.

Lu, H. J., & Chang, L. (2011). Self-deceive to countermine detection. *Behavioral and Brain Sciences*, *34*(1), 33–33. https://doi.org/10.1017/S0140525X10002529

Lucas, C., Wong, P., Klein, J., Castro, T. B. R., Silva, J., Sundaram, M., Ellingson, M. K., Mao, T., Oh, J. E., Israelow, B., Takahashi, T., Tokuyama, M., Lu, P., Venkataraman, A., Park, A., Mohanty, S., Wang, H., Wyllie, A. L., Vogels, C. B. F., … Iwasaki, A. (2020). Longitudinal analyses reveal immunological misfiring in severe COVID-19. *Nature*, *584*(7821), Article 7821. https://doi.org/10.1038/s41586-020-2588-y

Lüdecke, D., Ben-Shachar, M. S., Patil, I., Waggoner, P., & Makowski, D. (2021). performance: An R Package for Assessment, Comparison and Testing of Statistical Models. *Journal of Open Source Software*, *6*(60), 3139. https://doi.org/10.21105/joss.03139

Mancini, T., Bottura, B., & Caricati, L. (2020). The Role of Perception of Threats, Conservative Beliefs and Prejudice on Prosocial Behavioural Intention in Favour of Asylum Seekers in a Sample of Italian Adults. *Current Psychology*, *39*(6), 2252–2261. https://doi.org/10.1007/s12144-018-9909-4

Maoulida, H., Tavani, J. L., & Urdapilleta, I. (2021). When Past Group Events and Identities Define the Present: Effect of Perceived Collective Continuity on Defensive Behaviors of the French In-Group. *Journal of Pacific Rim Psychology*, *15*, 18344909211005470. https://doi.org/10.1177/18344909211005474

Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, *35*, 63–78. https://doi.org/10.1037/0022-3514.35.2.63

Marques, J. M., & Paez, D. (1994). The 'Black Sheep Effect': Social Categorization, Rejection of Ingroup Deviates, and Perception of Group Variability. *European Review of Social Psychology*, *5*(1), 37–68. https://doi.org/10.1080/14792779543000011

Mazar, N., Amir, O., & Ariely, D. (2008). The Dishonesty of Honest People: A Theory of Self-Concept Maintenance. *Journal of Marketing Research*, *45*(6), 633–644. https://doi.org/10.1509/jmkr.45.6.633

McAdams, D. P. (2016). *The Art and Science of Personality Development* (1° edizione). Guilford Press.

McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In *Prejudice, discrimination, and racism* (pp. 91–125). Academic Press.

McIver, J., & Carmines, E. G. (1981). *Unidimensional Scaling*. SAGE.

Mead, N. L., Baumeister, R. F., Gino, F., Schweitzer, M. E., & Ariely, D. (2009). Too Tired to Tell the Truth: Self-Control Resource Depletion and Dishonesty. *Journal of Experimental Social Psychology*, *45*(3), 594–597. https://doi.org/10.1016/j.jesp.2009.02.004

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. https://doi.org/10.1037/a0028085

Međedović, J., & Petrović, B. (2016). Can there be an immoral morality? Dark personality traits as predictors of moral foundations. *Psihologija*, *49*(2), 185–197.

Mikhail, J. (2007). Universal moral grammar: Theory, evidence and the future. *Trends in Cognitive Sciences*, *11*(4), 143–152. https://doi.org/10.1016/j.tics.2006.12.007

Miles, A., & Upenieks, L. (2018). An expanded model of the moral self: Beyond care and justice. *Social Science Research*, *72*, 1–19. https://doi.org/10.1016/j.ssresearch.2018.02.004

Milesi, P., & Alberici, A. I. (2018). Pluralistic morality and collective action: The role of moral foundations. *Group Processes & Intergroup Relations*, *21*(2), 235–256. https://doi.org/10.1177/1368430216675707

Miller, G. (2008). The Roots of Morality. *Science*, *320*(5877), 734–737. https://doi.org/10.1126/science.320.5877.734

Molenaar, P. C. M. (2004). A Manifesto on Psychology as Idiographic Science: Bringing the Person Back Into Scientific Psychology, This Time Forever. *Measurement: Interdisciplinary Research and Perspectives*, *2*(4), 201–218. https://doi.org/10.1207/s15366359mea0204_1

Molenaar, P. C. M., & Campbell, C. G. (2009). The New Person-Specific Paradigm in Psychology. *Current Directions in Psychological Science*, *18*(2), 112–117. https://doi.org/10.1111/j.1467-8721.2009.01619.x

Molouki, S., & Bartels, D. M. (2017). Personal change and the continuity of the self. *Cognitive Psychology*, *93*, 1–17. https://doi.org/10.1016/j.cogpsych.2016.11.006

Mols, F., & Jetten, J. (2014). No guts, no glory: How framing the collective past paves the way for anti-immigrant sentiments. *International Journal of Intercultural Relations*, *43*, 74–86. https://doi.org/10.1016/j.ijintrel.2014.08.014

Monin, B., & Jordan, A. H. (2009). The dynamic moral self: A social psychological perspective. In *Personality, identity, and character: Explorations in moral psychology* (pp. 341–354). Cambridge University Press. https://doi.org/10.1017/CBO9780511627125.016

Monroe, A. E., Ainsworth, S. E., Vohs, K. D., & Baumeister, R. F. (2017). Fearing the Future? Future-Oriented Thought Produces Aversion to Risky Investments, Trust, and Immorality. *Social Cognition*, *35*(1), 66–78. https://doi.org/10.1521/soco.2017.35.1.66

Mooijman, M., Meindl, P., Oyserman, D., Monterosso, J., Dehghani, M., Doris, J. M., & Graham, J. (2018). Resisting temptation for the good of the group: Binding moral values and the

moralization of self-control. Journal of Personality and Social Psychology, 115, 585–599. https://doi.org/10.1037/pspp0000149

Mullen, B. & Li-Tze Hu. (1989). Perceptions of Ingroup and Outgroup Variability: A Meta-Analytic Integration. Basic & Applied Social Psychology, 10(3), 233–252. https://doi.org/10.1207/s15324834basp1003_3

Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, *110*(3), 472–489. https://doi.org/10.1037/0033-295X.110.3.472

Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, *110*, 472–489. https://doi.org/10.1037/0033-295X.110.3.472

Mussweiler, T., & Epstude, K. (2009). Relatively fast! Efficiency advantages of comparative thinking. *Journal of Experimental Psychology: General*, *138*(1), 1–21. https://doi.org/10.1037/a0014374

Mussweiler, T., & Epstude, K. (2009). Relatively fast! Efficiency advantages of comparative thinking. *Journal of Experimental Psychology: General*, *138*, 1–21. https://doi.org/10.1037/a0014374

Myin-Germeys, I., van Os, J., Schwartz, J. E., Stone, A. A., & Delespaul, P. A. (2001). Emotional reactivity to daily life stress in psychosis. *Archives of General Psychiatry*, *58*(12), 1137–1144. https://doi.org/10.1001/archpsyc.58.12.1137

Nail, P. R., McGregor, I., Drinkwater, A. E., Steele, G. M., & Thompson, A. W. (2009). Threat causes liberals to think like conservatives. *Journal of Experimental Social Psychology*, *45*(4), 901–907. https://doi.org/10.1016/j.jesp.2009.04.013

Nakagawa, S., Johnson, P. C. D., & Schielzeth, H. (2017). The coefficient of determination R2 and intra-class correlation coefficient from generalized linear mixed-effects models revisited and

expanded. Journal of The Royal Society Interface, 14(134), 20170213. https://doi.org/10.1098/rsif.2017.0213

Napier, J. L., & Luguri, J. B. (2013). Moral Mind-Sets: Abstract Thinking Increases a Preference for "Individualizing" Over "Binding" MFs. *Social Psychological and Personality Science*, *4*(6), 754–759. https://doi.org/10.1177/1948550612473783

Newby-Clark, I. R., & Ross, M. (2003). Conceiving the Past and Future. *Personality and Social Psychology Bulletin*, *29*(7), 807–818. https://doi.org/10.1177/0146167203029007001

Newell, S. L., Dion, M. L., & Doubleday, N. C. (2020). Cultural continuity and Inuit health in Arctic Canada. *Journal of Epidemiology and Community Health*, *74*(1), 64–70. https://doi.org/10.1136/jech-2018-211856

Nilsson, A., Erlandsson, A., & Västfjäll, D. (2016). The congruency between moral foundations and intentions to donate, self-reported donations, and actual donations to charity. *Journal of Research in Personality*, *65*, 22–29. https://doi.org/10.1016/j.jrp.2016.07.001

O'Connor, D. B., Conner, M., Jones, F., McMillan, B., & Ferguson, E. (2009). Exploring the benefits of conscientiousness: An investigation of the role of daily stressors and health behaviors. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicine*, *37*(2), 184–196. https://doi.org/10.1007/s12160-009-9087-6

Obeid, N., Argo, N., & Ginges, J. (2017). How Moral Perceptions Influence Intergroup Tolerance: Evidence From Lebanon, Morocco, and the United States. *Personality and Social Psychology Bulletin*, *43*(3), 381–391. https://doi.org/10.1177/0146167216686560

Parfit, D. (1971). Personal identity. *Philosophical Review*, *80*, 3–27. https://doi.org/10.2307/2184309

Parfit, D. (1984). *Reasons and Persons*. Oxford University Press.

Park, B., & Judd, C. M. (2005). Rethinking the Link Between Categorization and Prejudice Within the Social Cognition Perspective. *Personality and Social Psychology Review*, *9*(2), 108–130. https://doi.org/10.1207/s15327957pspr0902_2

Paskevich, D. M., Brawley, L. R., Dorsch, K. D., & Widmeyer, W. N. (1999). Relationship between collective efficacy and team cohesion: Conceptual and measurement issues. *Group Dynamics: Theory, Research, and Practice*, *3*, 210–222. https://doi.org/10.1037/1089-2699.3.3.210

Perugini, M., & Leone, L. (2009). Implicit self-concept and moral action. *Journal of Research in Personality*, *43*, 747–754. https://doi.org/10.1016/j.jrp.2009.03.015

Piaget, J. (1948). *The moral judgment of the child* (pp. ix, 418). Free Press.

Piazza, J., & Bering, J. M. (2008). Concerns about reputation via gossip promote generous allocations in an economic game. *Evolution and Human Behavior*, *29*(3), 172–178. https://doi.org/10.1016/j.evolhumbehav.2007.12.002

Pittinsky, T. L., Rosenthal, S. A., & Montoya, R. M. (2011). Liking is not the opposite of disliking: The functional separability of positive and negative attitudes toward minority groups. Cultural Diversity and Ethnic Minority Psychology, 17, 134–143. https://doi.org/10.1037/a0023806

Plato (2009). *The Republic*. Auckland: The Floating Press.

Posten, A. C., & Mussweiler, T. (2017). That certain something! Focusing on similarities reduces judgmental uncertainty. *Cognition*, *165*, 121–125. https://doi.org/10.1016/j.cognition.2017.05.010

Posten, A.-C., & Mussweiler, T. (2017). That certain something! Focusing on similarities reduces judgmental uncertainty. *Cognition*, *165*, 121–125. https://doi.org/10.1016/j.cognition.2017.05.010

Posten, A.-C., & Mussweiler, T. (2017). That certain something! Focusing on similarities reduces judgmental uncertainty. *Cognition*, *165*, 121–125. https://doi.org/10.1016/j.cognition.2017.05.010

Prentice, M., Jayawickreme, E., & Fleeson, W. (2020). An experience sampling study of the momentary dynamics of moral, autonomous, competent, and related need satisfactions, moral enactments, and psychological thriving. *Motivation and Emotion*, *44*(2), 244–256. https://doi.org/10.1007/s11031-020-09829-3

Pronin, E., & Ross, L. (2006). Temporal differences in trait self-ascription: When the self is seen as an other. *Journal of Personality and Social Psychology*, *90*(2), 197–209. https://doi.org/10.1037/0022-3514.90.2.197

Pronin, E., Olivola, C. Y., & Kennedy, K. A. (2008). Doing Unto Future Selves As You Would Do Unto Others: Psychological Distance and Decision Making. *Personality and Social Psychology Bulletin*, *34*(2), 224–236. https://doi.org/10.1177/0146167207310023

Prussia, G. E., & Kinicki, A. J. (1996). A motivational investigation of group effectiveness using social-cognitive theory. *Journal of Applied Psychology*, *81*(2), 187–198. https://doi.org/10.1037/0021-9010.81.2.187

Pyszczynski, T., Greenberg, J., & Goldenberg, J. L. (2003). Freedom versus fear: On the defense, growth, and expansion of the self. In *Handbook of self and identity* (pp. 314–343). The Guilford Press.

R Core Team (2020). *R: A language and environment for statistical computing*. Vienna: R Foundation for Statistial Computing.

Ratner, K. G., Dotsch, R., Wigboldus, D. H. J., van Knippenberg, A., & Amodio, D. M. (2014). Visualizing minimal ingroup and outgroup faces: Implications for impressions, attitudes, and behavior. Journal of Personality and Social Psychology, 106, 897–911. https://doi.org/10.1037/a0036498

Reed, A., & Aquino, K. F. (2003). Moral identity and the expanding circle of moral regard toward out-groups. *Journal of Personality and Social Psychology*, *84*(6), 1270–1286. https://doi.org/10.1037/0022-3514.84.6.1270

Reicher, S., & Hopkins, N. (2001). Psychology and the end of history: A critique and a proposal for the psychology of social categorization. *Political Psychology*, *22*, 383–407. https://doi.org/10.1111/0162-895X.00246

Reicher, S., & Hopkins, N. (2001). Psychology and the end of history: A critique and a proposal for the psychology of social categorization. *Political Psychology*, *22*, 383–407. https://doi.org/10.1111/0162-895X.00246

Reicher, S., Cassidy, C., Wolpert, I., Hopkins, N., & Levine, M. (2006). Saving Bulgaria's Jews: An analysis of social identity and the mobilisation of social solidarity. *European Journal of Social Psychology*, *36*(1), 49–72. https://doi.org/10.1002/ejsp.291

Revelle, W. (2019) psych: Procedures for Personality and Psychological Research, Northwestern University, Evanston, Illinois, USA, https://CRAN.R-project.org/package=psych Version = 1.9.12.

Revelle, W. (2019). *psych: Procedures for Psychological, Psychometric, and Personality Research*. R package version 1.9.12, https://CRAN.R-project.org/package=psych.

Riis, J., Simmons, J. P., & Goodwin, G. P. (2008). Preferences for Enhancement Pharmaceuticals: The Reluctance to Enhance Fundamental Traits. *Journal of Consumer Research*, *35*(3), 495–508. https://doi.org/10.1086/588746

Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin*, *128*, 934–960. https://doi.org/10.1037/0033-2909.128.6.934

Roccas, S., & Schwartz, S. H. (1993). Effects of intergroup similarity on intergroup relations. *European Journal of Social Psychology*, *23*, 581–595. https://doi.org/10.1002/ejsp.2420230604

Roccas, S., & Schwartz, S. H. (1993). Effects of intergroup similarity on intergroup relations. European Journal of Social Psychology, 23(6), 581–595. https://doi.org/10.1002/ejsp.2420230604

Roccas, S., Klar, Y., & Liviatan, I. (2006). The paradox of group-based guilt: Modes of national identification, conflict vehemence, and reactions to the in-group's moral violations. *Journal of Personality and Social Psychology*, *91*(4), 698–711. https://doi.org/10.1037/0022-3514.91.4.698

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton University Press. https://www.jstor.org/stable/j.ctt183pjjh

Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global Self-Esteem and Specific Self-Esteem: Different Concepts, Different Outcomes. *American Sociological Review*, *60*(1), 141–156. https://doi.org/10.2307/2096350

Ross, M., & Newby-Clark, I. R. (1998). Construing the Past and Future. *Social Cognition*, *16*(1), 133–150. https://doi.org/10.1521/soco.1998.16.1.133

Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, *48*, 1–36. https://doi.org/10.18637/jss.v048.i02

Roth, J., Huber, M., Juenger, A., & Liu, J. H. (2017). It's About Valence: Historical Continuity or Historical Discontinuity as a Threat to Social Identity. *Journal of Social and Political Psychology*, *5*(2), 320–341. https://doi.org/10.5964/jspp.v5i2.677

Rubin, D. C. (2006). The Basic-Systems Model of Episodic Memory. *Perspectives on Psychological Science*, *1*(4), 277–311. https://doi.org/10.1111/j.1745-6916.2006.00017.x

Rutchick, A. M., Slepian, M. L., Reyes, M. O., Pleskus, L. N., & Hershfield, H. E. (2018). Future self-continuity is associated with improved health and increases exercise behavior. *Journal of Experimental Psychology: Applied*, *24*(1), 72–80. https://doi.org/10.1037/xap0000153

Rutt, J. L., & Löckenhoff, C. E. (2016). From past to future: Temporal self-continuity across the life span. *Psychology and Aging*, *31*(6), 631–639. https://doi.org/10.1037/pag0000090

Sani, F. (2005). When Subgroups Secede: Extending and Refining the Social Psychological Model of Schism in Groups. *Personality and Social Psychology Bulletin*, *31*(8), 1074–1086. https://doi.org/10.1177/0146167204274092

Sani, F., Bowe, M., & Herrera, M. (2008). Perceived collective continuity and social well-being: Exploring the connections. *European Journal of Social Psychology*, *38*(2), 365–374. https://doi.org/10.1002/ejsp.461

Sani, F., Bowe, M., & Herrera, M. (2008). Perceived collective continuity and social well-being: Exploring the connections. *European Journal of Social Psychology*, *38*, 365–374. https://doi.org/10.1002/ejsp.461

Sani, F., Bowe, M., Herrera, M., Manna, C., Cossa, T., Miao, X., & Zhou, Y. (2007). Perceived collective continuity: Seeing groups as entities that move through time. *European Journal of Social Psychology*, *37*(6), 1118–1134. https://doi.org/10.1002/ejsp.430

Sani, F., Herrera, M., & Bowe, M. (2009). Perceived collective continuity and in-group identification as defence against death awareness. *Journal of Experimental Social Psychology*, *45*(1), 242–245. https://doi.org/10.1016/j.jesp.2008.07.019

Schacter, D. L., & Addis, D. R. (2007). The cognitive neuroscience of constructive memory: Remembering the past and imagining the future. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *362*(1481), 773–786. https://doi.org/10.1098/rstb.2007.2087

Schacter, D. L., & Buckner, R. L. (1998). Priming and the Brain. Neuron, 20(2), 185–195. https://doi.org/10.1016/S0896-6273(00)80448-1

Schelling, T. C. (1984). Self-Command in Practice, in Policy, and in a Theory of Rational Choice. *The American Economic Review*, *74*(2), 1–11.

Schmitt, M. T., Silvia, P. J., & Branscombe, N. R. (2000). The Intersection of Self-Evaluation Maintenance and Social Identity Theories: Intragroup Judgment in Interpersonal and Intergroup Contexts. *Personality and Social Psychology Bulletin*, *26*(12), 1598–1606. https://doi.org/10.1177/01461672002612013

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining Power and Sample Size for Simple and Complex Mediation Models. *Social Psychological and Personality Science*, *8*(4), 379–386. https://doi.org/10.1177/1948550617715068

Schwartz, S. H., & Bilsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology*, *58*(5), 878–891. https://doi.org/10.1037/0022-3514.58.5.878

Schwarz, N. (2012). Handbook of Theories of Social Psychology: Volume 1. In *Handbook of Theories of Social Psychology: Volume 1* (Vol. 1–1, pp. 289–308). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215

Sedikides, C., Hong, E. K., & Wildschut, T. (2023). Self-Continuity. *Annual Review of Psychology*, *74*(1), null. https://doi.org/10.1146/annurev-psych-032420-032236

Sedikides, C., Wildschut, T., Routledge, C., Arndt, J., Hepper, E. G., & Zhou, X. (2015). Chapter Five - To Nostalgize: Mixing Memory with Affect and Desire. In J. M. Olson & M. P. Zanna (Eds.), *Advances in Experimental Social Psychology* (Vol. 51, pp. 189–273). Academic Press. https://doi.org/10.1016/bs.aesp.2014.10.001

Shao, R., Aquino, K., & Freeman, D. (2008). Beyond Moral Reasoning: A Review of Moral Identity Research and Its Implications for Business Ethics. *Business Ethics Quarterly*, *18*(4), 513–540.

Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-Concept: Validation of Construct Interpretations. *Review of Educational Research*, *46*(3), 407–441. https://doi.org/10.3102/00346543046003407

Sheeran, P., & Webb, T. L. (2016). The Intention–Behavior Gap. *Social and Personality Psychology Compass*, *10*(9), 503–518. https://doi.org/10.1111/spc3.12265

Short, S. E., Sullivan, P., & Feltz, D. L. (2005). Development and Preliminary Validation of the Collective Efficacy Questionnaire for Sports. *Measurement in Physical Education and Exercise Science*, *9*(3), 181–202. https://doi.org/10.1207/s15327841mpee0903_3

Shrikanth, S., Szpunar, P. M., & Szpunar, K. K. (2018). Staying positive in a dystopian future: A novel dissociation between personal and collective cognition. *Journal of Experimental Psychology: General*, *147*(8), 1200–1210. https://doi.org/10.1037/xge0000421

Silver, I., & Shaw, A. (2018). No Harm, Still Foul: Concerns About Reputation Drive Dislike of Harmless Plagiarizers. *Cognitive Science*, *42*(S1), 213–240. https://doi.org/10.1111/cogs.12500

Silver, J. R., & Silver, E. (2017). Why are conservatives more punitive than liberals? A moral foundations approach. *Law and Human Behavior*, *41*, 258–272. https://doi.org/10.1037/lhb0000232

Silver, J. R., & Silver, E. (2021). The Nature and Role of Morality in Offending: A Moral Foundations Approach. *Journal of Research in Crime and Delinquency*, *58*(3), 343–380. https://doi.org/10.1177/0022427820960201

Skitka, L. J., Mullen, E., Griffin, T., Hutchinson, S., & Chamberlin, B. (2002). Dispositions, scripts, or motivated correction? Understanding ideological differences in explanations for social problems. *Journal of Personality and Social Psychology*, *83*, 470–487. https://doi.org/10.1037/0022-3514.83.2.470

Small, D. A., & Loewenstein, G. (2003). Helping a Victim or Helping the Victim: Altruism and Identifiability. *Journal of Risk and Uncertainty*, *26*(1), 5–16. https://doi.org/10.1023/A:1022299422219

Smeekes, A., & Verkuyten, M. (2013). Collective self-continuity, group identification and in-group defense. Journal of Experimental Social Psychology, 49(6), 984–994. https://doi.org/10.1016/j.jesp.2013.06.004

Smeekes, A., & Verkuyten, M. (2014a). Perceived group continuity, collective self-continuity, and in-group identification. *Self and Identity*, *13*(6), 663–680. https://doi.org/10.1080/15298868.2014.898685

Smeekes, A., & Verkuyten, M. (2014b). When national culture is disrupted: Cultural continuity and resistance to Muslim immigrants. *Group Processes & Intergroup Relations*, *17*(1), 45–66. https://doi.org/10.1177/1368430213486208

Smeekes, A., Jetten, J., Verkuyten, M., Wohl, M. J. A., Jasinskaja-Lahti, I., Ariyanto, A., Autin, F., Ayub, N., Badea, C., Besta, T., Butera, F., Costa-Lopes, R., Cui, L., Fantini, C., Finchilescu, G., Gaertner, L., Gollwitzer, M., Gómez, Á., González, R., … van der Bles, A. M. (2018). Regaining In-Group Continuity in Times of Anxiety About the Group's Future. *Social Psychology*, *49*(6), 311–329. https://doi.org/10.1027/1864-9335/a000350

Smeekes, A., Verkuyten, M., & Martinovic, B. (2015). Longing for the country's good old days: National nostalgia, autochthony beliefs, and opposition to Muslim expressive rights. *British Journal of Social Psychology*, *54*(3), 561–580. https://doi.org/10.1111/bjso.12097

Smeekes, A., Verkuyten, M., Çelebi, E., Acartürk, C., & Onkun, S. (2017). Social identity continuity and mental health among Syrian refugees in Turkey. *Social Psychiatry and Psychiatric Epidemiology*, *52*(10), 1317–1324. https://doi.org/10.1007/s00127-017-1424-7

Smith, E. R., & Henry, S. (1996). An In-Group Becomes Part of the Self: Response Time Evidence. *Personality and Social Psychology Bulletin*, *22*(6), 635–642. https://doi.org/10.1177/0146167296226008

Sokol, Y., & Serper, M. (2019). Experimentally increasing self-continuity improves subjective well-being and protects against self-esteem deterioration from an ego-deflating task. *Identity: An International Journal of Theory and Research*, *19*, 157–172. https://doi.org/10.1080/15283488.2019.1604350

Sokol, Y., & Serper, M. (2020). Development and Validation of a Future Self-Continuity Questionnaire: A Preliminary Report. *Journal of Personality Assessment*, *102*(5), 677–688. https://doi.org/10.1080/00223891.2019.1611588

Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). A Terror Management Theory of Social Behavior: The Psychological Functions of Self-Esteem and Cultural Worldviews. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 24, pp. 93–159). Academic Press. https://doi.org/10.1016/S0065-2601(08)60328-7

Spears, R., Doosje, B., & Ellemers, N. (1997). Self-Stereotyping in the Face of Threats to Group Status and Distinctiveness: The Role of Group Identification. *Personality and Social Psychology Bulletin*, *23*(5), 538–553. https://doi.org/10.1177/0146167297235009

Stanley, M. L., & De Brigard, F. (2019). Moral Memories and the Belief in the Good Self. *Current Directions in Psychological Science*, *28*(4), 387–391. https://doi.org/10.1177/0963721419847990

Stanley, M. L., & De Brigard, F. (2019). Moral Memories and the Belief in the Good Self. *Current Directions in Psychological Science*, *28*(4), 387–391. https://doi.org/10.1177/0963721419847990

Stanley, M. L., Henne, P., & De Brigard, F. (2019). Remembering moral and immoral actions in constructing the self. *Memory & Cognition*, *47*(3), 441–454. https://doi.org/10.3758/s13421-018-0880-y

Stanley, M. L., Henne, P., & De Brigard, F. (2019). Remembering moral and immoral actions in constructing the Self. *Memory & Cognition*, *47*(3), 441–454. https://doi.org/10.3758/s13421-018-0880-y

Stanley, M. L., Henne, P., Iyengar, V., Sinnott-Armstrong, W., & De Brigard, F. (2017). I'm not the person I used to be: The self and autobiographical memories of immoral actions. *Journal of Experimental Psychology: General*, *146*(6), 884–895. https://doi.org/10.1037/xge0000317

Stel, M., van Baaren, R. B., Blascovich, J., van Dijk, E., McCall, C., Pollmann, M. M. H., van Leeuwen, M. L., Mastop, J., & Vonk, R. (2010). Effects of a priori liking on the elicitation of mimicry. *Experimental Psychology*, *57*, 412–418. https://doi.org/10.1027/1618-3169/a000050

Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In Reducing prejudice and discrimination (pp. 23–45). Lawrence Erlbaum Associates Publishers.

Stephan, W. G., Renfro, C. L., & Davis, M. D. (2008). The Role of Threat in Intergroup Relations. In Improving Intergroup Relations (pp. 55–72). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781444303117.ch5

Stephan, W. G., Ybarra, O., & Morrison, K. R. (2009). Intergroup threat theory. In Handbook of prejudice, stereotyping, and discrimination (pp. 43–59). Psychology Press.

Strohminger, N., & Nichols, S. (2014). The essential moral self. *Cognition*, *131*(1), 159–171. https://doi.org/10.1016/j.cognition.2013.12.005

Sunil, S., & Verma, S. K. (2018). Moral Identity and Its Links to Ethical Ideology and Civic Engagement. *Journal of Human Values*, *24*(2), 73–82. https://doi.org/10.1177/0971685818754547

Süssenbach, P., Rees, J., & Gollwitzer, M. (2019). When the going gets tough, individualizers get going: On the relationship between moral foundations and prosociality. *Personality and Individual Differences*, *136*, 122–131. https://doi.org/10.1016/j.paid.2018.01.019

Szekeres, H., Halperin, E., Kende, A., & Saguy, T. (2019). The effect of moral loss and gain mindset on confronting racism. *Journal of Experimental Social Psychology*, *84*, 103833. https://doi.org/10.1016/j.jesp.2019.103833

Szpunar, K. K., Spreng, R. N., & Schacter, D. L. (2014). A taxonomy of prospection: Introducing an organizational framework for future-oriented cognition. *Proceedings of the National Academy of Sciences*, *111*(52), 18414–18421. https://doi.org/10.1073/pnas.1417144111

Szpunar, P. M., & Szpunar, K. K. (2016). Collective future thought: Concept, function, and implications for collective memory studies. *Memory Studies*, *9*(4), 376–389. https://doi.org/10.1177/1750698015615660

Tabernero, C., Arenas, A., & Briones, E. (2007). Experiencia previa y eficacia grupal percibida ante dilemas sociales. *Psicologia*, *21*(1), 83–105.

Tabri, N., Wohl, M. J. A., & Caouette, J. (2018). Will we be harmed, will it be severe, can we protect ourselves? Threat appraisals predict collective angst (and its consequences). *European Journal of Social Psychology*, *48*(1), 72–85. https://doi.org/10.1002/ejsp.2303

Tajfel, H., & Turner, J. C. (1979). An Integrative Theory of Intergroup Conflict. In S. Worchel, & W. G. Austin (Eds.), *The Social Psychology of Intergroup Relations* (pp. 33-47). Brooks/Cole.Todd.

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

Thaler, R. H., & Shefrin, H. M. (1981). An Economic Theory of Self-Control. *Journal of Political Economy*, *89*(2), 392–406. https://doi.org/10.1086/260971

Tian, K., & Belk, R. W. (2005). Extended Self and Possessions in the Workplace. *Journal of Consumer Research*, *32*(2), 297–310. https://doi.org/10.1086/432239

Tingley, D., Yamamoto, T., Hirose, K., Keele, L., & Imai, K. (2014). mediation: R Package for Causal Mediation Analysis. *Journal of Statistical Software*, *59*(1), Article 1. https://doi.org/10.18637/jss.v059.i05

Todd, A. R., Bodenhausen, G. V., Richeson, J. A., & Galinsky, A. D. (2011). Perspective taking combats automatic expressions of racial bias. *Journal of Personality and Social Psychology*, *100*, 1027–1042. https://doi.org/10.1037/a0022308

Todd, A. R., Hanko, K., Galinsky, A. D., & Mussweiler, T. (2011). When Focusing on Differences Leads to Similar Perspectives. *Psychological Science*, *22*(1), 134–141. https://doi.org/10.1177/0956797610392929

Touré-Tillery, M., & Light, A. E. (2018). No self to spare: How the cognitive structure of the self influences moral behavior. *Organizational Behavior and Human Decision Processes*, *147*, 48–64. https://doi.org/10.1016/j.obhdp.2018.05.002

Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin*, *27*, 585–600. https://doi.org/10.1177/0146167201275007

Tulving, E. (1985). *Elements of Episodic Memory*. OUP Oxford.

Van Berkel, L., Crandall, C. S., Eidelman, S., & Blanchar, J. C. (2015). Hierarchy, Dominance, and Deliberation: Egalitarian Values Require Mental Effort. *Personality and Social Psychology Bulletin*, *41*(9), 1207–1222. https://doi.org/10.1177/0146167215591961

Van de Vyver, J., Houston, D. M., Abrams, D., & Vasiljevic, M. (2016). Boosting Belligerence: How the July 7, 2005, London Bombings Affected Liberals' Moral Foundations and Prejudice. *Psychological Science*, *27*(2), 169–177. https://doi.org/10.1177/0956797615615584

Van Gelder, J.-L., Hershfield, H. E., & Nordgren, L. F. (2013). Vividness of the Future Self Predicts Delinquency: *Psychological Science*. https://doi.org/10.1177/0956797612465197

van Gelder, J.-L., Hershfield, H. E., & Nordgren, L. F. (2013). Vividness of the Future Self Predicts Delinquency. *Psychological Science*, *24*(6), 974–980. https://doi.org/10.1177/0956797612465197

Van Gelder, J.-L., Luciano, E. C., Kranenbarg, M. W., & Hershfield, H. E. (2015). Friends with My Future Self: Longitudinal Vividness Intervention Reduces Delinquency. *Criminology*, *53*(2), 158–179. https://doi.org/10.1111/1745-9125.12064

Van Gelder, J.-L., Luciano, E. C., Weulen Kranenbarg, M., & Hershfield, H. E. (2015). Friends with My Future Self: Longitudinal Vividness Intervention Reduces Delinquency. *Criminology*, *53*(2), 158–179. https://doi.org/10.1111/1745-9125.12064

van Leeuwen, E. (2007). Restoring identity through out-group helping: Beliefs about international aid in response to the December 2004 tsunami. *European Journal of Social Psychology*, *37*(4), 661–671. https://doi.org/10.1002/ejsp.389

van Leeuwen, E., & Täuber, S. (2012). Out-group Helping as a Tool to Communicate Ingroup Warmth. *Personality and Social Psychology Bulletin*, *38*(6), 772–783. https://doi.org/10.1177/0146167211436253

van Leeuwen, E., van Dijk, W., & Kaynak, Ü. (2013). Of saints and sinners: How appeals to collective pride and guilt affect out-group helping. *Group Processes & Intergroup Relations*, *16*(6), 781–796. https://doi.org/10.1177/1368430213485995

Vargas-Salfate, S., Paez, D., Oriol, X., Costa, S. da, Gondim, S., & Techio, E. (2020). Nationalistic Collective Rituals, Intergroup Relations, and Legitimation of National Social Systems. *International Review of Social Psychology*, *33*(1), 1. https://doi.org/10.5334/irsp.291

Vaughan, T. J., Bell Holleran, L., & Silver, J. R. (2019). Applying Moral Foundations Theory to the Explanation of Capital Jurors' Sentencing Decisions. *Justice Quarterly*, *36*(7), 1176–1205. https://doi.org/10.1080/07418825.2018.1537400

Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behavior. *Journal of Personality and Social Psychology*, *82*(3), 434–447. https://doi.org/10.1037/0022-3514.82.3.434

Vonasch, A. J., & Sjåstad, H. (2021). Future-Orientation (as Trait and State) Promotes Reputation-Protective Choice in Moral Dilemmas. *Social Psychological and Personality Science*, *12*(3), 383–391. https://doi.org/10.1177/1948550619899257

Wang, L. P., & Maxwell, S. E. (2015). On disaggregating between-person and within-person effects with longitudinal data using multilevel models. *Psychological Methods*, *20*(1), 63–83. https://doi.org/10.1037/met0000030

Warner, R. H., Kent, A. H., & Kiddoo, K. L. (2016). Perceived collective continuity and attitudes toward outgroups. *European Journal of Social Psychology*, *46*(5), 595–608. https://doi.org/10.1002/ejsp.2202

Waugh, C. E., & Fredrickson, B. L. (2006). Nice to know you: Positive emotions, self-other overlap, and complex understanding in the formation of a new relationship. *The Journal of Positive Psychology*, *1*, 93–106. https://doi.org/10.1080/17439760500510569

Wegner, D. M., Schneider, D. J., Carter, S. R., & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology*, *53*, 5–13. https://doi.org/10.1037/0022-3514.53.1.5

Wenzel, M., Mummendey, A., & Waldzus, S. (2007). Superordinate identities and intergroup conflict: The ingroup projection model. *European Review of Social Psychology*, *18*(1), 331–372. https://doi.org/10.1080/10463280701728302

Wessel, I., & Moulds, M. L. (2008). Collective memory: A perspective from (experimental) clinical psychology. *Memory*, *16*, 288–304. https://doi.org/10.1080/09658210701811813

West, S. G., Ryu, E., Kwok, O.-M., & Cham, H. (2011). Multilevel Modeling: Current and Future Applications in Personality Research. *Journal of Personality*, *79*(1), 2–50. https://doi.org/10.1111/j.1467-6494.2010.00681.x

Wildschut, T., Bruder, M., Robertson, S., van Tilburg, W. A. P., & Sedikides, C. (2014). Collective nostalgia: A group-level emotion that confers unique benefits on the group. *Journal of Personality and Social Psychology*, *107*(5), 844–863. https://doi.org/10.1037/a0037760

Winterich, K. P., Aquino, K., Mittal, V., & Swartz, R. (2013). When moral identity symbolization motivates prosocial behavior: The role of recognition and moral identity internalization. *The Journal of Applied Psychology*, *98*(5), 759–770. https://doi.org/10.1037/a0033177

Wohl, M. J. A., & Branscombe, N. R. (2008a). Collective angst: How threats to the future vitality of the ingroup shape intergroup emotion. In *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 171–181). American Psychological Association. https://doi.org/10.1037/11771-016

Wohl, M. J. A., & Branscombe, N. R. (2008b). Remembering historical victimization: Collective guilt for current ingroup transgressions. *Journal of Personality and Social Psychology*, *94*, 988–1006. https://doi.org/10.1037/0022-3514.94.6.988

Wohl, M. J. A., & Branscombe, N. R. (2009). Group Threat, Collective Angst, and Ingroup Forgiveness for the War in Iraq. *Political Psychology*, *30*(2), 193–217. https://doi.org/10.1111/j.1467-9221.2008.00688.x

Wohl, M. J. A., & Van Bavel, J. J. (2011). Is identifying with a historically victimized group good or bad for your health? Transgenerational post-traumatic stress and collective victimization. *European Journal of Social Psychology*, *41*, 818–824. https://doi.org/10.1002/ejsp.844

Wohl, M. J. A., Branscombe, N. R., & Reysen, S. (2010). Perceiving Your Group's Future to Be in Jeopardy: Extinction Threat Induces Collective Angst and the Desire to Strengthen the Ingroup. *Personality and Social Psychology Bulletin*, *36*(7), 898–910. https://doi.org/10.1177/0146167210372505

Wohl, M. J. A., Giguère, B., Branscombe, N. R., & McVicar, D. N. (2011). One day we might be no more: Collective angst and protective action from potential distinctiveness loss. *European Journal of Social Psychology*, *41*(3), 289–300. https://doi.org/10.1002/ejsp.773

Wohl, M. J. A., Squires, E. C., & Caouette, J. (2012). We Were, We Are, Will We Be? The Social Psychology of Collective Angst. *Social and Personality Psychology Compass*, *6*(5), 379–391. https://doi.org/10.1111/j.1751-9004.2012.00437.x

Wright, J. C., & Baril, G. (2011). The role of cognitive resources in determining our moral intuitions: Are we all liberals at heart? *Journal of Experimental Social Psychology*, *47*, 1007–1012. https://doi.org/10.1016/j.jesp.2011.03.014

Wrzus, C., & Neubauer, A. B. (2022). Ecological Momentary Assessment: A Meta-Analysis on Designs, Samples, and Compliance Across Research Fields. *Assessment*, 10731911211067538. https://doi.org/10.1177/10731911211067538

Wu, W.-H., Cheng, W., & Chiou, W.-B. (2017). Episodic Future Thinking about the Ideal Self Induces Lower Discounting, Leading to a Decreased Tendency toward Cheating. *Frontiers in Psychology*, *8*. https://doi.org/10.3389/fpsyg.2017.00287

Yamashiro, J. K., & Roediger, H. L. (2019). How we have fallen: Implicit trajectories in collective temporal thought. *Memory*, *27*(8), 1158–1166. https://doi.org/10.1080/09658211.2019.1635161

Yilmaz, O., & Saribay, S. A. (2017). The relationship between cognitive style and political orientation depends on the measures used. *Judgment and Decision Making*, *12*, 140–147.

Yudkin, D. A., Gantman, A. P., Hofmann, W., & Quoidbach, J. (2021). Binding moral values gain importance in the presence of close others. *Nature Communications*, *12*(1), 2718. https://doi.org/10.1038/s41467-021-22566-6

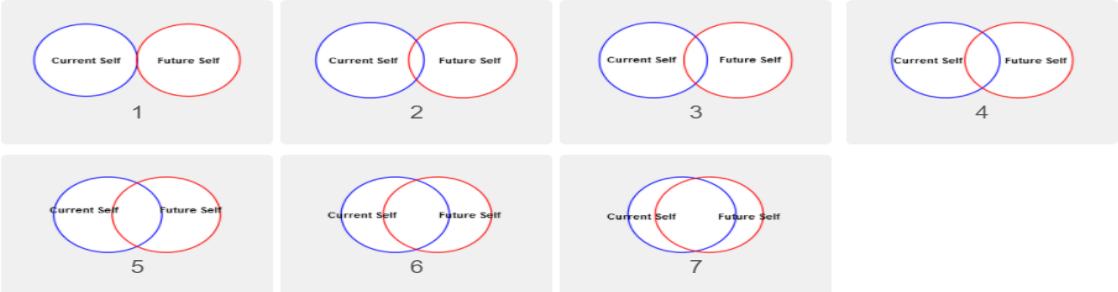
Appendices

The Appendices section contains study materials separated into four sections: materials described in Chapter 1 – English (Appendix A), materials described in Chapter 2 – Italian (Appendix B), materials described in Chapter 2 – English (Appendix C), materials described in Chapter 2 – Italian (Appendix D).

Appendix A: Materials Described in Chapter 1– English Version

Future Self-Continuity Scale (Hershfield et al., 2011):

The two circles represent the link between what you are now and what you will be in 10 years, that is, how connected you feel now with your future self in 10 years. Among the following drawings, choose the one that best represents the link between who you are and who you will be in 10 years. Mark the drawing that you have chosen.



Future Self-Continuity Questionnaire Similarity Subscale (Sokol & Serper, 2021)

How similar are you now to what you will be like 10 years from now?

(completely different) 1 2 3 4 5 6 7 (exactly the same)

How similar are your beliefs now to what they will be like 10 years from now?
How similar is your personality now to what it will be like 10 years from now?
How similar are your values now to what they will be like 10 years from now?

Future Self-Continuity Questionnaire Vividness + Positivity Subscale (Sokol & Serper, 2021)

Please read the following statements and indicate your agreement or disagreement.

(not at all) 1 2 3 4 5 6 7 (perfectly)

How vividly can you imagine what you will be like in 10 years from now?

How vividly can you imagine what you will look like in 10 years from now?

How vividly can you imagine what your family relationships will be like in 10 years from now?

Do you like what you will be like 10 years from now?

Do you like what your personality will probably be like 10 years from now?

Do you like what your actions will probably be like 10 years from now?

Moral Foundations Questionnaire Relevance Subscale (Graham et al., 2011)

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?

(not at all relevant) 1 2 3 4 5 6 7 (extremely relevant)

Whether or not someone suffered emotionally.

Whether or not some people were treated differently than others.

Whether or not someone's action showed love for his or her country.

Whether or not someone showed a lack of respect for authority.

Whether or not someone violated standards of purity and decency.

Whether or not someone cared for someone weak or vulnerable.

Whether or not someone acted unfairly.

Whether or not someone did something to betray his or her group.

Whether or not someone conformed to the traditions of society.

Whether or not someone did something disgusting.

Whether or not someone was cruel.

Whether or not someone was denied his or her rights.

Whether or not someone showed a lack of loyalty.

Whether or not an action caused chaos or disorder.

Whether or not someone acted in a way that God would approve of.

Moral Foundations Questionnaire Judgement Subscale (Graham et al., 2011)

Please read the following sentences and indicate your agreement or disagreement.

(completely disagree) 1 2 3 4 5 6 7 (completely agree)

Compassion for those who are suffering is the most crucial virtue.

When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

I am proud of my country's history.

Respect for authority is something all children need to learn.

People should not do things that are disgusting, even if no one is harmed.

One of the worst things a person could do is hurt a defenseless animal.

Justice is the most important requirement for a society.

People should be loyal to their family members, even when they have done something wrong.

Men and women each have different roles to play in society.

I would call some acts wrong on the grounds that they are unnatural.

It can never be right to kill a human being.

I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

It is more important to be a team player than to express oneself.

If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

Chastity is an important and valuable virtue.

Moral Identity Internalizaton Subscale – State Version (Aquino & Reed, 2002)

Listed below are some characteristics that may describe a person [list of nine traits]. The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions. Based on how you feel right now, indicate for every statement your level of agreement.

(completely disagree) 1 2 3 4 5 6 7 (completely agree)

It would make me feel good to be a person who has these characteristics.

A big part of my emotional well-being is tied up in having these characteristics.

I would be ashamed to be a person who has these characteristics.

Having these characteristics is not really important to me.

Having these characteristics is an important part of my sense of self.

HEXACO PI

Think about yourself now. For each of the following statements, mark the number that best matches your opinion

(completely disagree) 1 2 3 4 5 6 7 (completely agree)

HEXACO-60 PI Extraversion, Agreeableness, Continuousness, and Openness Items (Lee & Ashton, 2008)

I feel reasonably satisfied with myself overall.
I feel that I am an unpopular person.
I sometimes feel that I am a worthless person.
I rarely express my opinions in group meetings.
In social situations, I'm usually the one who makes the first move.
When I'm in a group of people, I'm often the one who speaks on behalf of the group.
I prefer jobs that involve active social interaction to those that involve working alone.
The first thing that I always do in a new place is to make friends.
On most days, I feel cheerful and optimistic.
Most people are more upbeat and dynamic than I generally am.
I rarely hold a grudge, even against people who have badly wronged me.
My attitude toward people who have treated me badly is "forgive and forget".
People sometimes tell me that I am too critical of others.
I tend to be lenient in judging other people.
Even when people make a lot of mistakes, I rarely say anything negative.
People sometimes tell me that I'm too stubborn.
I am usually quite flexible in my opinions when people disagree with me.
When people tell me that I'm wrong, my first reaction is to argue with them.
People think of me as someone who has a quick temper.
Most people tend to get angry more quickly than I do.
I plan ahead and organize things, to avoid scrambling at the last minute.
When working, I sometimes have difficulties due to being disorganized.
I often push myself very hard when trying to achieve a goal.
I do only the minimum amount of work needed to get by.
When working on something, I don't pay much attention to small details.
I always try to be accurate in my work, even at the expense of time.
People often call me a perfectionist.
I make decisions based on the feeling of the moment rather than on careful thought.
I make a lot of mistakes because I don't think before I act.
I prefer to do whatever comes to mind, rather than stick to a plan.
I would be quite bored by a visit to an art gallery.
If I had the opportunity, I would like to attend a classical music concert.
I'm interested in learning about the history and politics of other countries.

I've never really enjoyed looking through an encyclopedia.
I would enjoy creating a work of art, such as a novel, a song, or a painting.
People have often told me that I have a good imagination.
I don't think of myself as the artistic or creative type.
I think that paying attention to radical ideas is a waste of time.
I like people who have unconventional views.
I find it boring to discuss philosophy.

HEXACO-200 PI Honesty-Humility Items (Lee & Ashton, 2008)

If I want something from a person I dislike, I will act very nicely toward that person in order to get it.
I don't see anything wrong with using flattery to get ahead in life.
I sometimes try to make people feel guilty so that they will do what I want.
I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.
If I want something from someone, I will laugh at that person's worst jokes.
I wouldn't pretend to like someone just to get that person to do favors for me.
If I want something from someone, I ask for it directly, instead of manipulating them into giving it.
I often get people to do favors for me by making them feel that they owe me.
If I knew that I could never get caught, I would be willing to steal a million dollars.
I wouldn't cheat a person even if he or she was a real "sucker".
I wouldn't feel bad about deceiving people who allow themselves to be deceived.
I would be tempted to buy stolen property if I were financially tight.
I would still pay my taxes even if I would not get caught for avoiding them.
I would never accept a bribe, even if it were very large.
I would like to know how to smuggle things across the border.
I'd be tempted to use counterfeit money, if I were sure I could get away with it.
Having a high level of social status is not very important to me.
Having a lot of money is not especially important to me.
I prefer to have high-status, successful people as my friends.
I would like to live in a very expensive, high-class neighborhood.
I would like to be seen driving around in a very expensive car.
I would enjoy being a member of a fancy, high-class casino.
I would get a lot of pleasure from owning expensive luxury goods.
If there is some chance of improving my social status, I take big risks.
I deserve more influence and authority than most other people do.
I am an ordinary person who is no better than others.
I wouldn't want people to treat me as though I were superior to them.
I am special and superior in many ways.
Sometimes I feel that laws should not apply to someone like me.
I think that I am entitled to more respect than the average person is.
Some people would say that I have an over-inflated ego.
I want people to know that I am an important person of high status.

HEXACO-200 PI Emotionality Items (Lee & Ashton, 2008)

I would feel afraid if I had to travel in bad weather conditions.
Where physical pain is involved, I'm a very tough person.
It doesn't bother me to get some bumps and bruises.
I don't mind doing jobs that involve dangerous work.

People say that I am a fearless person.
I would avoid any sport that involves a high risk of physical injury.
When it comes to physical danger, I am very fearful.
Even in an emergency I wouldn't feel like panicking.
I sometimes can't help worrying about little things.
I often find myself lying awake in bed and worrying about something.
If I were a parent, I would probably tend to worry a lot about my children.
I worry a lot less than most people do.
Sometimes I feel nervous without really knowing why.
I rarely, if ever, have trouble sleeping due to stress or anxiety.
I tend to remain calm even when other people get stressed out.
I get very anxious when waiting to hear about an important decision.
I rely a great deal on other people when I feel depressed.
Without the emotional support of other people, I sometimes feel helpless.
When I suffer from a painful experience, I need someone to make me feel comfortable.
I can "tough it out" on my own through any kind of personal hardship.
When I have a problem, I like to get advice from others.
I can handle difficult situations without needing emotional support from anyone else.
Whenever I feel worried about something, I want to share my concern with another person.
I rarely discuss my problems with other people.
I feel like crying when I see other people crying.
When someone I know well is unhappy, I can almost feel that person's pain myself.
I feel strong emotions when someone close to me is going away for a long time.
I don't understand why some people get so emotional at weddings.
When someone close to me is concerned about something, I feel concerned too.
People sometimes say that I am not sensitive to others' feelings.
I remain unemotional even in situations where most people get very sentimental.
I sometimes get quite sentimental when thinking about people and places I used to know.

HEXACO-200 PI Social Self-Esteem Items (Lee & Ashton, 2008)

I feel comfortable when introducing myself to strangers.
I rarely express my opinions in group meetings.
In social situations, I'm usually the one who makes the first move.
When I'm in a group of people, I'm often the one who speaks on behalf of the group.
In a large group discussion, I would only make comments if someone asked me directly.
I can handle embarrassing social situations better than most people can.
I feel confident when leading a group of people.
I tend to feel quite self-conscious when speaking in front of a group of people.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Please indicate your level of agreement/disagreement with the following items.

(completely disagree) 1 2 3 4 5 6 7 (completely agree)

On the whole, I am satisfied with myself.

At times, I think I am no good at all.

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.

I certainly feel useless at times.

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.

All in all, I am inclined to feel that I am a failure.

I take a positive attitude toward myself.

Self-Reported Single Item (SRSI; Meade & Craig, 2012)

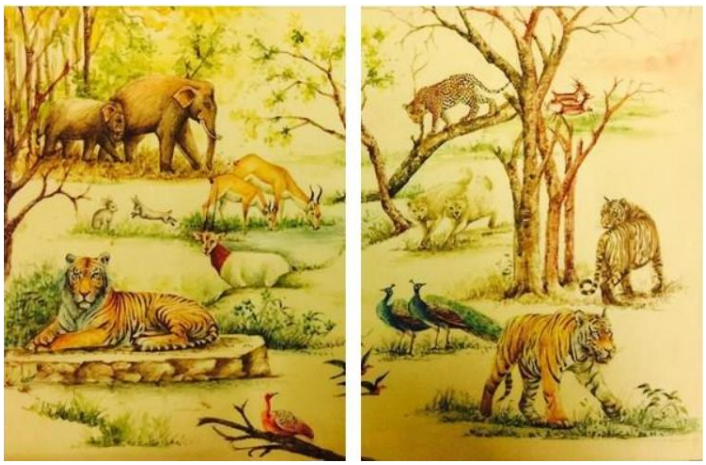
We have shared this study with you for scientific research purposes. It is vital to our study that we only include responses from participants that completed the questionnaires with proper attention. Otherwise the effort spent (the time of the researchers and other participants) could be lost. So please honestly answer the following question: In all honesty, do you think we should use your data in our study?

1. Yes

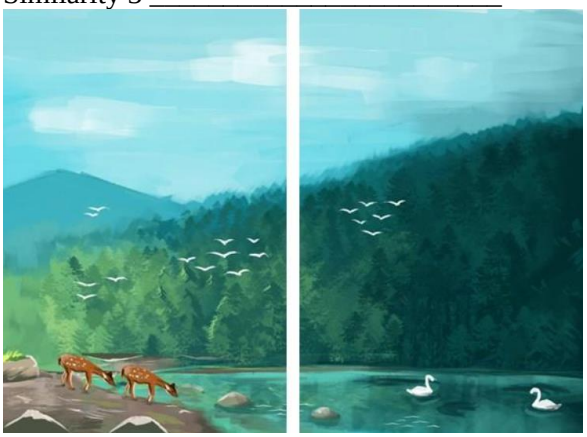
2. No

Picture Comparison Task (Used in Studies 2-4)

You will be presented to two pictures depicting a forest and river scene. The pictures are vertically cut in half. Please carefully analyze the halves of each picture and list 3 similarities between them.



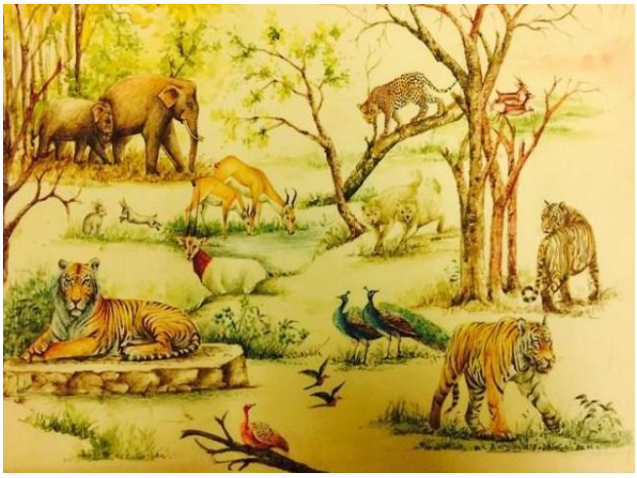
Similarity 1 _____
Similarity 2 _____
Similarity 3 _____



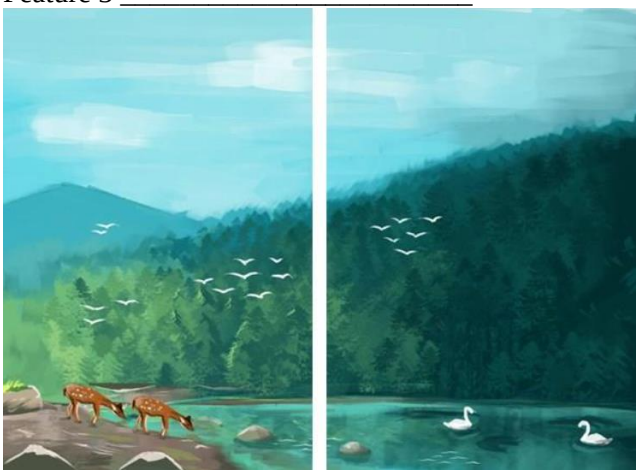
Similarity 1 _____
Similarity 2 _____
Similarity 3 _____

Feature Identification Task (Used in Studies 2-4)

You will be presented to two pictures depicting a forest and a river scene. Please carefully analyze each picture and list 3 features that you noticed.



Feature 1 _____
Feature 2 _____
Feature 3 _____



Feature 1 _____
Feature 2 _____
Feature 3 _____

Future Self-Continuity Manipulation: Letter-Writing Task (Used in Studies 2-6)

In many important ways, people remain the same over time. Recent research in psychology has found that at the core, people are very similar from one period of time to another. Please think about what you will be like in 10 years and list all of the ways in which you think you will be similar to how you are now. Take at least two minutes to think about and write the answers to this question. It's ok if you take

longer than two minutes. You will not be able to advance to the next page before two minutes have elapsed, as shown by the timer in the upper left corner.

Present Self-Manipulation: Letter-Writing Task (Used in Study 6)

In many important ways, people have a clear image of themselves. Recent research in psychology has found that people are greatly influencded by the representations of the their present Self. Please think about the ways you are in the present and write down in the box below all that you find relevant to your definition yourself at this moment. Take at least two minutes to think about and write the answers to this question. Take at least two minutes to think and write down your responses to this question. It's ok if you take longer than two minutes. You will not be able to advance to the next page before two minutes have elapsed, as shown by the timer in the upper left corner.

Neutral Condition Future Manipulation (Used in Study 6)

One important aspect of people's everyday life if public transport. Recent scientific research found that some characteristics of urban and extra-urban public transport remains stable if we compare one period in time with another. We ask you to think about how public transport will be in 10 years and list in the box below all aspects that you think will be similar to like they are now. Take at least two minutes to think and write down your responses to this question. It's ok if you take longer than two minutes. You will not be able to advance to the next page before two minutes have elapsed, as shown by the timer in the upper left corner.

Neutral Condition Present Manipulation (Used in Study 6)

One important aspect of people's everyday life if public transport. Recent scientific research have analyzed the present characteristics of urban and extra-urban public transport remains stable in this historical period. We ask you to think about how public transport looks like in the present and list in the box below all aspects that you think is relevant for the definition of public transport in the present moment. Take at least two minutes to think and write down your responses to this question. It's ok if you

take longer than two minutes. You will not be able to advance to the next page before two minutes have elapsed, as shown by the timer in the upper left corner.

General Control Condition (used in Studies 2-5)

Please read the following passage and count how many times the letter "e" was present in the text. You will not be able to advance to the next page before two minutes have elapsed, as shown by the timer in the upper left corner.

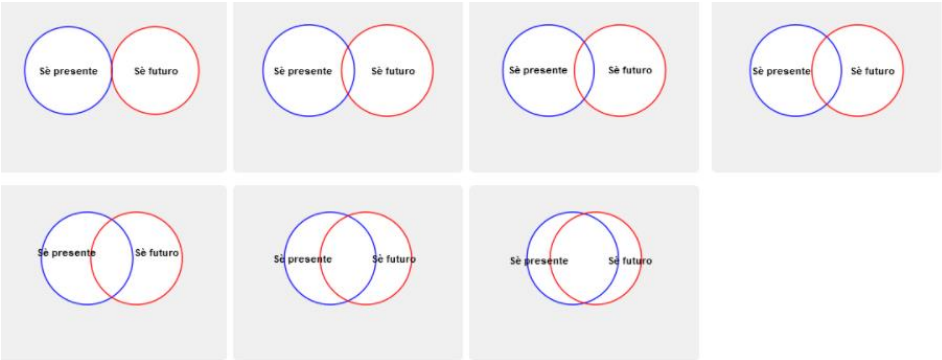
Humans are uniquely smart among all the other species on the planet. We are capable of outstanding feats of technology and engineering. Then why are we so prone to making mistakes? And why do we tend to make the same ones time and time again? When Primate Psychologist Laurie Santos from the Comparative Cognition Lab at Yale University posed this question to her team, they were thinking in particular of the errors of judgement which led to the recent collapse of the financial markets. Santos came to two possible answers to this question. Either humans have designed environments which are too complex for us to fully understand, or we are biologically prone to making bad decisions.

The number of times the letter "e" was presented in the text was: _____

Appendix B: Materials Described in Chapter 1 – Italian Version

Future Self-Continuity Scale (Hershfield et al., 2011):

Ti chiediamo ora di pensare a te stesso/a oggi e tra 10 anni. Qui sotto vedrai due cerchi, uno rosso e uno blu. I due cerchi rappresentano la connessione tra ciò che sei ora e ciò che sarai tra 10 anni. Pensa a quanto ti senti connesso ora con il tuo “Sè futuro”. Tra i seguenti disegni, scegli quale rappresenta maggiormente la connessione tra chi sei ora e chi sarai tra 10 anni. Marca la casella che corrisponde al disegno da te prescelto.



Future Self-Continuity Questionnaire Similarity Subscale (Sokol & Serper, 2021)

Quanto sei simile ora a come sarai tra 10 anni?

1 (completamente differente) 2 3 4 5 6 7 (esattamente uguale)

Quanto il come sei adesso è simile a come sarai tra 10 anni?
Quanto le tue credenze odierne sono simili a quelle che avrai tra 10 anni?
Quanto la tua personalità di adesso è simile a quella che avrai tra 10 anni?
Quanto i tuoi valori odierni sono simili a quelli che avrai tra 10 anni?

Future Self-Continuity Questionnaire Vividness + Positivity Subscales (Sokol & Serper, 2021)

Rispondi alle seguenti domande.

1 (per niente) 2 3 4 5 6 7 (perfettamente)

Quanto vividamente riesci a immaginare come sarai tra 10 anni?
Quanto vividamente riesci a immaginare l'aspetto che avrai tra 10 anni?
Quanto vividamente riesci a immaginare come saranno le tue relazioni familiari tra dieci anni?
Ti piace come sarai tra 10 anni?
Ti piace come probabilmente sarà la tua personalità tra 10 anni?
Ti piace come sarà probabilmente il tuo comportamento tra 10 anni?

Moral Foundations Questionnaire Relevance Subscale – Italian Adaptation (Bobbio et al., 2011)

Ti chiediamo di valutare ognuna delle affermazioni presentate qui di seguito.

1 (per nulla rilevante) 2 3 4 5 6 7 (assolutamente rilevante)

Se qualcuno ha sofferto emotivamente oppure no.
Se qualcuno si è preso cura di una persona debole o vulnerabile oppure no.
Se qualcuno è stato crudele oppure no.
Se qualcuno ha agito in modo ingiusto oppure no.
Se alcune persone sono state trattate in modo differente da altre oppure no.
Se a qualcuno sono stati negati i propri diritti oppure no.
Se qualcuno ha dimostrato mancanza di lealtà oppure no.
Se qualcuno ha fatto qualcosa per tradire il proprio gruppo oppure no.
Se gli atti compiuti hanno mostrato amore per il proprio Paese oppure no.
Se qualcuno si è adeguato alle tradizioni della società oppure no.
Se qualcuno ha mostrato una mancanza di rispetto per l'autorità oppure no.
Se un'azione ha causato caos o disordine oppure no.
Se qualcuno ha fatto qualcosa di ripugnante oppure no.
Se qualcuno ha violato le norme di purezza e decenza oppure no.
Se qualcuno ha agito in un modo che Dio approverebbe oppure no.

Moral Foundations Questionnaire Judgement Subscale – Italian Adaptation (Bobbio et al., 2011)

Ti preghiamo ora di leggere le seguenti frasi e indicare il tuo accordo o disaccordo.

1 (per nulla d'accordo) 2 3 4 5 6 7 (assolutamente d'accordo)

Una delle peggiori cose che una persona potrebbe fare è far del male a un animale indifeso.
Non può mai essere giusto uccidere un essere umano.
La compassione per coloro che soffrono è la virtù più importante.
La giustizia è il requisito più importante per una società.
Quando il legislatore fa le leggi, il principio fondamentale dovrebbe essere quello di assicurare che tutti vengano trattati in modo equo.
Penso che sia moralmente sbagliato che i figli dei ricchi ereditino molti soldi mentre i figli dei poveri non ereditano nulla.
E' più importante fare gioco di squadra piuttosto che esprimere se stessi individualmente.
Sono orgoglioso/a della storia del mio Paese.
Le persone dovrebbero essere leali verso i membri della propria famiglia, anche se questi hanno fatto qualcosa di sbagliato.
Uomini e donne hanno ciascuno ruoli diversi nella società.
Se fossi un soldato e non fossi d'accordo con gli ordini del mio comandante, obbedirei comunque poiché è mio dovere farlo.
Il rispetto per l'autorità è una cosa che tutti i bambini devono imparare.
Le persone non dovrebbero fare cose ripugnanti, anche se nessuno ne viene danneggiato.
Definirei alcune azioni come sbagliate sulla base del fatto che sono innaturali.
La castità è una virtù importante e di valore.

Moral Identity Internalizaton Subscale – State Version (Aquino & Reed, 2002)

Sulla base di come ti senti in questo momento, per ciascuna delle seguenti affermazioni, indica il tuo grado di accordo.

1 (per nulla d'accordo) 2 3 4 5 6 7 (assolutamente d'accordo)

Mi sentirei bene se fossi una persona con queste caratteristiche.
Il mio benessere emotivo dipende principalmente dal possedere queste caratteristiche.
Mi vergognerei di essere una persona che ha queste caratteristiche.
Possedere queste caratteristiche non è realmente importante per me
Desidero fortemente avere queste caratteristiche.

HEXACO PI

Pensa ora a te stesso/a. Per ciascuna delle seguenti affermazioni, marca il numero che meglio corrisponde alla tua opinione.

1 (per nulla d'accordo) 2 3 4 5 6 7 (assolutamente d'accordo)

HEXACO-60 PI Extraversion, Agreeableness, Continuousness, and Openness Items (Lee & Ashton, 2008)

Mi annoierei se visitassi una galleria d'arte.
Pianifico in anticipo per evitare di fare le cose all'ultimo minuto.
Raramente mantengo rancore, anche verso qualcuno che si e' comportato molto male con me.
Mi sento ragionevolmente soddisfatto di me stesso/a.
Mi piace imparare la storia e gli avvenimenti politici di altre nazioni.
Spesso ce la metto proprio tutta quando provo a raggiungere un obiettivo.
Le persone a volte mi dicono che critico troppo gli altri.
E' raro che esprima le mie opinioni in discussioni di gruppo.
Proverei piacere nel creare un lavoro artistico, come un romanzo, una canzone o un quadro.
Non pongo molta attenzione ai piccoli dettagli quando lavoro su qualcosa.
A volte mi dicono che sono troppo cocciuto/a.
Preferisco dei lavori che richiedono un'interazione sociale attiva a quelli che richiedono di lavorare da solo.
Penso che prestare attenzione ad idee radicali sia una perdita di tempo.
Prendo decisioni basandomi su cosa provo in quel momento piuttosto che su una considerazione attenta dei pro e contro.
La gente mi considera come una persona che si scalda per un nonnulla.
La maggior parte del tempo sono allegro/a ed ottimista.
Mi piacerebbe andare ad un concerto di musica classica se ne avessi la possibilità.
Qualche volta ho difficoltà quando lavoro perché sono disorganizzato/a.

Il mio atteggiamento verso le persone che mi hanno trattato male e' "perdona e dimentica".
Sento di essere una persona non molto popolare.
Non ho mai avuto realmente piacere a sfogliare un'enciclopedia.
Faccio solo il lavoro minimo indispensabile per cavarmela.
Tendo ad essere indulgente nel giudicare le persone.
Di solito sono il/la primo/a che si fa' avanti in situazioni di tipo sociale.
La gente mi dice spesso che ho una immaginazione molto buona.
Cerco sempre di essere accurato/a nel mio lavoro, anche se ciò mi costa del tempo.
Di solito sono molto flessibile sulle mie opinioni quando altre persone sono in disaccordo con me.
La prima cosa che faccio quando sono in un posto nuovo e' fare nuove amicizie.
Mi piacciono le persone che hanno delle opinioni non conformiste.
Spesso faccio degli errori perché non penso prima di agire.
La maggior parte delle persone si arrabbia più facilmente di me.
La maggior parte delle persone sono più positive e dinamiche di quanto io lo sia solitamente.
Non mi reputo un tipo artistico o creativo.
La gente di solito mi considera un/a perfezionista.
Anche quando le persone fanno un sacco di errori, e' raro che dica qualcosa di negativo nei loro confronti.
Qualche volta sento di essere una persona di scarso valore.
Trovo noioso discutere di filosofia.
Mi piace fare la prima cosa che mi viene in mente piuttosto che seguire dei piani.
Quando qualcuno che mi dice che ho torto, la mia prima reazione e' di controbattere.
Quando sono in un gruppo di persone, spesso sono quello/a che parla per conto del gruppo.

HEXACO-200 PI Honesty-Humility Items (Lee & Ashton, 2008)

Se voglio ottenere qualcosa da una persona che non mi piace, mi comporto molto carinamente nei suoi confronti
Non avrei problemi a rubare un milione di euro se sapessi per certo di non essere scoperto/a
Non mi importa affatto raggiungere una posizione sociale elevata
Merito di avere piu' influenza ed autorita' di quanto lo meriti la maggior parte delle persone
Non vedo nulla di male nell'adulare le persone pur di andare avanti nella vita
Non imbroglierei una persona anche se fosse un ingenuo/a
Non e' molto importante per me avere un sacco di denaro
Sono una persona normale, non migliore delle altre
Qualche volta cerco di far sentire le persone in colpa in modo tale che poi fanno quello che voglio io
Non mi sentirei male ad ingannare persone che si fanno ingannare facilmente
Preferisco circondarmi di amici che hanno una posizione sociale elevata
Non mi piacerebbe che le persone mi trattassero come se fossi superiore a loro
Non farei lusinghe per avere una promozione sul lavoro, anche se pensassi che cio' servisse
Se fossi in ristrettezze economiche, sarei tentato/a di comprare roba rubata
Mi piacerebbe vivere in una zona costosa ed esclusiva
Sono una persona speciale e superiore in molti sensi
Se voglio ottenere qualcosa da qualcuno, faccio finta di sbellicarmi dalle risate anche quando fa delle battute che non fanno ridere
Pagherei le tasse anche se fossi certo/a che non mi scoprirebbero
Mi piacerebbe farmi vedere in giro alla guida di un'auto molto costosa
Qualche volta penso che le leggi non dovrebbero essere applicate a una persona come me
Non fingerei che una persona mi stia simpatica, solo per ottenere dei favori
Per quanto cospicua, non accetteri mai una "bustarella"
Mi piacerebbe essere socio/a di un night-club esclusivo frequentato da VIP

Penso di aver diritto a piu' rispetto di una persona media
Se voglio qualcosa da qualcuno, glielo chiedo direttamente senza provare a manipolarlo
Vorrei tanto sapere come si fa' ad evitare di pagare imposte e contributi
Mi darebbe molta soddisfazione possedere dei beni di lusso costosi
Alcuni direbbero che sono un pallone gonfiato
Spesso riesco a farmi fare dei favori dagli altri facendoli sentire come se mi fossero debitori
Se fossi certo/a di farla franca, sarei tentato/a di usare banconote false
Pur di migliorare la mia posizione sociale, corro dei rischi che dovrei evitare
Voglio che la gente sappia che io sono una persona di una certa importanza

HEXACO-200 PI Emotionality Items (Lee & Ashton, 2008)

Mi farebbe paura viaggiare quando fa' brutto tempo
Qualche volta non riesco ad evitare di preoccuparmi di cose insignificanti
Cerco molto il sostegno di altre persone quando mi sento depresso/a
Quando vedo altre persone piangere, viene da piangere anche a me
Quando si tratta di dolore fisico, io sono un/a duro/a
Spesso rimango sveglio/a a letto perche' mi preoccupo di qualcosa
Qualche volta mi sento perso/a senza il sostegno emotivo di altre persone
Se qualcuno che mi e' caro e' infelice, e' come se anch'io provassi il suo dolore
Non mi crea preoccupazione se mi procuro dei lividi o delle contusioni
Se fossi un genitore, probabilmente sarei molto preoccupato ed ansioso rispetto ai miei figli
Ho bisogno di qualcuno che mi conforti quando soffro per un'esperienza dolorosa
Sento delle emozioni forti quando qualcuno che mi e' vicino se ne va' per un lungo periodo
Non mi crea problemi fare dei lavori pericolosi
Penso di preoccuparmi meno della maggior parte delle persone
Posso farcela da solo/a con qualsiasi tipo di sacrificio personale
Non capisco perche' alcune persone si emozionano cosi' tanto ai matrimoni
La gente dice che sono uno/a senza paura
Qualche volta sono nervoso/a senza sapere il perche'
Mi piace chiedere dei consigli ad altri quando ho un problema
Quando qualcuno che mi sta a cuore e' preoccupato per qualcosa, mi preoccupo anch'io
Eviterei qualsiasi sport in cui si rischia seriamente di infortunarsi
Non mi capita quasi mai di aver problemi di sonno dovuti ad stress o ansia
Ce la faccio a destreggiarmi in situazioni difficili senza bisogno di sostegno emotivo da parte di nessuno
La gente qualche volta dice che io sono insensibile ai sentimenti degli altri
Ho molta paura di situazioni di pericolo fisico
Rimango calmo/a anche in occasioni nelle quali altre persone diventano stressate
Ogni qualvolta mi sento preoccupato/a per qualcosa, voglio condividere la mia preoccupazione con un altra persona
Non mi emoziono neanche in situazioni dove la maggior parte delle persone diventa sentimentale
Non mi faccio prendere dal panico anche in situazioni di emergenza
Divento molto ansioso/a quando sono in attesa dell'esito di una decisione importante
E' molto raro che mi metta a discutere dei miei problemi con altre persone
Qualche volta divento molto sentimentale quando penso alle persone ed i posti che un tempo conoscevo

HEXACO-200 PI Social Self-Esteem Items (Lee & Ashton, 2008)

Mi sento a mio agio quando mi presento agli sconosciuti.
Raramente esprimo le mie opinioni nelle riunioni di gruppo.

In situazioni sociali, di solito sono io che faccio la prima mossa.
Quando sono in un gruppo di persone, sono spesso quello/a che parla a nome del gruppo.
In una grande discussione di gruppo, farei commenti solo se qualcuno me lo chiedesse direttamente.
Posso gestire situazioni sociali imbarazzanti meglio di quanto possa fare la maggior parte delle persone.
Mi sento sicuro/a quando conduco un gruppo di persone.
Tendo a sentirmi abbastanza a disagio quando parlo davanti a un gruppo di persone.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Ti chiediamo ora di leggere le seguenti affermazioni e indicare il tuo livello di accordo con ognuna di esse.

1 (fortemente in disaccordo) 2 3 4 5 6 7 (fortemente d'accordo)

Nel complesso, sono soddisfatto/a di me stesso/a.
A volte mi sento proprio inutile.
Credo di avere molte qualità.
Sono in grado di fare le cose come la maggior parte delle altre persone.
Credo di avere molto di cui essere fiero/a.
A volte penso di valere poco.
Credo di essere una persona di valore, almeno di valere come le altre.
Vorrei poter avere più rispetto per me stesso/a.
Tutto sommato, penso di essere un fallimento.
Ho un atteggiamento positivo verso me stesso/a.

Self-Reported Single Item (SRSI; Meade & Craig, 2012)

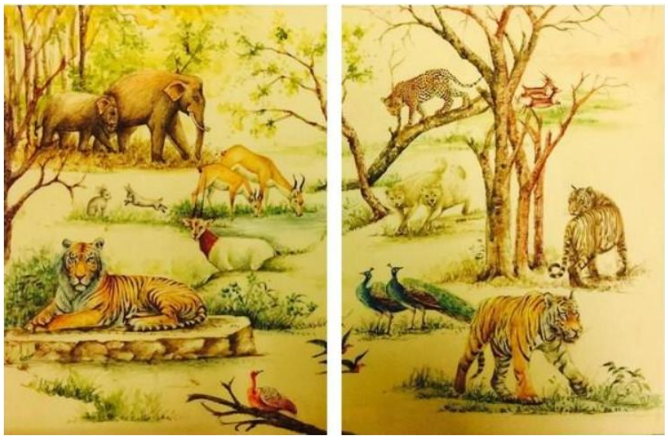
Il questionario è quasi terminato. Prima di concludere, dobbiamo sottolineare che è fondamentale per noi includere solo le risposte di persone che hanno dedicato tutta la loro attenzione a questo studio. Altrimenti si potrebbero sprecare anni di sforzi (dei ricercatori e il tempo degli altri partecipanti). Secondo la tua onesta opinione, dovremmo utilizzare i tuoi dati nelle nostre analisi di questo studio?

1. Sì
2. No

Picture Comparison Task (Used in Studies 2 and 3)

Ti verranno qui di seguito presentate due immagini raffiguranti delle scene naturali. Le immagini sono tagliate verticalmente a metà. Ti chiediamo di analizzare attentamente le due metà di ogni immagine, nel

riquadro di destra e di sinistra. Dopo averle osservate attentamente, elenca 3 somiglianze che vedi tra loro.

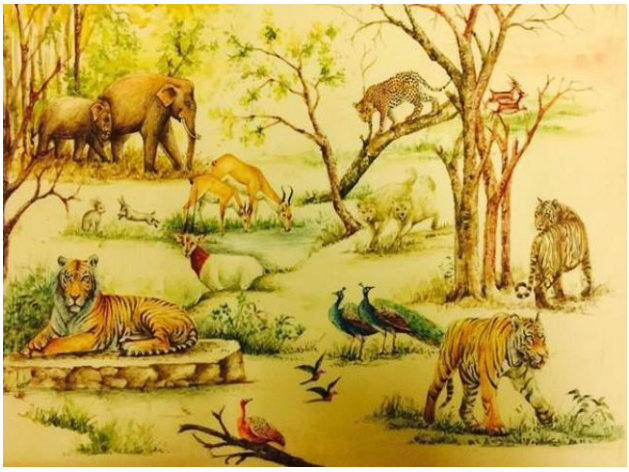


Somiglianza 1 _____
Somiglianza 2 _____
Somiglianza 3 _____

Somiglianza 1 _____
Somiglianza 2 _____
Somiglianza 3 _____

Feature Identification Task (Used in Studies 2 and 3)

Ti verranno qui di seguito presentate due immagini raffiguranti delle scene naturali. Ti chiediamo di analizzare attentamente ogni immagine. Dopo averle osservate attentamente, elenca 3 caratteristiche che hai notato.



Caratteristica 1 _____
Caratteristica 2 _____
Caratteristica 3 _____

Caratteristica 1 _____
Caratteristica 2 _____
Caratteristica 3 _____

Future Self-Continuity Manipulation: Letter-Writing Task (Used in Studies 2, 3, 4, and 5)

Passiamo ora alla parte successiva dello studio. Su molti aspetti importanti, le persone rimangono le stesse nel tempo. Recenti ricerche in psicologia hanno scoperto che, alla base, le persone rimangono molto simili, se confrontiamo un periodo di tempo con un altro. Ti chiediamo di pensare a come sarai tra 10 anni ed elencare nel riquadro qui sotto tutti gli aspetti su cui pensi che sarai simile a come sei ora. Prenditi almeno due minuti per pensare e scrivere la risposta a questa domanda. Non sarà possibile passare alla pagina successiva prima che siano trascorsi due minuti, come mostrato dal timer nell'angolo in alto a sinistra. Puoi impiegare più di due minuti, se ti serve tempo aggiuntivo.

Present Self-Manipulation: Letter-Writing Task (Used in Studies 4 and 5)

Passiamo ora alla prima parte dello studio. Su molti aspetti importanti, le persone hanno un'immagine chiara di se stesse. Recenti ricerche in psicologia hanno scoperto che le persone sono molto influenzate da questa rappresentazione che hanno di sè nel presente. Ti chiediamo di pensare a come sei nel presente ed elencare nel riquadro qui sotto tutti gli aspetti che ritieni rilevanti nella definizione di te stesso/a nel momento attuale. Prenditi almeno due minuti per pensare e scrivere la risposta a questa domanda. Non sarà possibile passare alla pagina successiva prima che siano trascorsi due minuti, come mostrato dal timer nell'angolo in alto a sinistra. Puoi impiegare più di due minuti, se ti serve tempo aggiuntivo.

Neutral Condition Future Manipulation (Used in Study 5)

Passiamo ora alla prima parte dello studio. Un aspetto importante della vita quotidiana delle persone è la mobilità. Recenti ricerche scientifiche hanno analizzato le caratteristiche salienti dei mezzi di trasporto urbani ed extra-urbani, in questo periodo storico. Ti chiediamo di pensare a come sono i mezzi di trasporto nel presente ed elencare nel riquadro qui sotto tutti gli aspetti che ritieni rilevanti nella loro definizione nel momento attuale. Prenditi almeno due minuti per pensare e scrivere la risposta a questa domanda. Non sarà possibile passare alla pagina successiva prima che siano trascorsi due minuti, come mostrato dal timer nell'angolo in alto a sinistra. Puoi impiegare più di due minuti, se ti serve tempo aggiuntivo.

Neutral Condition Present Manipulation (Used in Study 5)

Passiamo ora alla prima parte dello studio. Un aspetto importante della vita quotidiana delle persone è la mobilità. Recenti ricerche scientifiche hanno analizzato le caratteristiche salienti dei mezzi di trasporto urbani ed extra-urbani, in questo periodo storico. Ti chiediamo di pensare a come sono i mezzi di trasporto nel presente ed elencare nel riquadro qui sotto tutti gli aspetti che ritieni rilevanti nella loro definizione nel momento attuale. Prenditi almeno due minuti per pensare e scrivere la risposta a questa domanda.
Non sarà possibile passare alla pagina successiva prima che siano trascorsi due minuti, come mostrato dal timer nell'angolo in alto a sinistra. Puoi impiegare più di due minuti, se ti serve tempo aggiuntivo.

General Control Condition (used in Studies 2, 3, and 4)

Passiamo ora alla parte successiva dello studio.
Leggi il testo riportato qui sotto e conta quante volte è presenta la lettera 'E' nel testo. Prenditi almeno due minuti per eseguire il compito e scrivere la risposta . Non sarà possibile passare alla pagina successiva prima che siano trascorsi due minuti, come mostrato dal timer nell'angolo in alto a sinistra. Puoi impiegare più di due minuti, se ti serve tempo aggiuntivo.
_____ *Gli umani sono diversamente capaci rispetto alle altre speci viventi sul pianeta. Siamo capaci di capire le caratteristiche della tecnologia e dell'ingegneria. Quindi perché siamo così propensi a fare errori? E perché commettiamo gli stessi errori più volte? Quando il primario Laurie Santos (psicologa) del laboratorio di cognizione comparativa dell'università di Yale sottopose la questione al suo team, la prima cosa a cui pensarono furono gli errori nel giudizio morale che hanno portato al collasso dei mercati finanziari. Santos ha proposto due risposte al questa domanda: o gli umani hanno progettato un mondo troppo complesso per essere compreso pienamente, oppure siamo propensi a prendere decisioni errate.* _____
Il numero di volte che la lettera 'E' è presente nel testo è:_____

Appendix C: Materials Described in Chapter 2 – English Version

Collective Future Continuity Questionnaire Similarity Subscale

How similar will Italians be in 50 years to what they are now?

1 (completely different) 2 3 4 5 6 7 (exactly the same)

How similar are Italians now to what you they will be like 50 years from now?
How similar are beliefs of Italians now to what they will be like 50 years from now?
How similar is Italian culture now to what it will be like 50 years from now?
How similar are Italian values now to what they will be like 10 years from now?

Future Self-Continuity Questionnaire Vividness + Positivity Subscale

Please read the following statements and indicate your agreement or disagreement.

1 (not at all) 2 3 4 5 6 7 (perfectly)

How vividly can you imagine what Italians will be like in 50 years from now?
How vividly can you imagine what Italians will look like in 50 years from now?
How vividly can you imagine what the Italian culture will be like in 50 years from now?
Do you like what you will Italians will be like 50 years from now?
Do you like what Italian culture will probably be like 50 years from now?
Do you like what Italian society will probably be like 50 years from now?

Measure of Group Prosocial Behavior Expectations (Hopkins et al., 2007)

In what extent are the listed behaviors representative of Italians?

1 (not at all) 2 3 4 5 6 7 (perfectly)

Helping a fellow foreigner in distress.
Giving money to a charity specifically for people outside Italy.
Giving up one's time for a voluntary organization supporting non-Italians
Helping a fellow foreigner in distress.

Prosocial Collective Efficacy Scale (Cuadrado et al., 2016)

In what extent are the listed behaviors representative of Italians.

1 (not at all) 2 3 4 5 6 7 (perfectly)

Italians can behave cooperatively
Italians can distribute resources equitably
Italians can make an equal division of a common monetary fund

Italians can adopt behavior oriented to help others
Italians can share resources

Prosocial Behavior Scale for Adults – Adapted from Carprara and colleguages (2006)

In what measure *should* Italians engage in the following behaviors.

1 (not at all) 2 3 4 5 6 7 (very much)

Help my friends/colleagues in their activities
Share the things that I have with my friends
Try to help others
Be available for volunteer activities to help those who are inneed
Be emphatic with those who are in need
Help immediately those who are in need
Do what they can to help others avoid getting into trouble
Intensely feel what others feel
Be willing to make their knowledge and abilities available to others
Try to console those who are sad
Easily lend money or other things
Easily put themselves in the shoes of those who are in discomfort
Try to be close to and take care of those who are in need
Easily share with their friends any good opportunity that comes to them
Spend time with those friends who feel lonely
Immediately sense their friends' discomfort even when it is not directly communicated to them

Modern Prejudice Scale (McConahay, 1986)

Respond to the following items using a scale from 1 = not at all to 7 = very much.

1 (not at all) 2 3 4 5 6 7 (very much)

Italians should to mix with Islamic people.
It is should normal for Italians to have an intimate relationship with an Islamic person.
It is should normal for Italians to go to places where also Islamic people go.
Italians should have difficulty accept a marriage between one of them and an Islamic person.
Italians should think it is "cool" to date with Islamic friends.
Italians should be against working for an Islamic person even if qualified.
Italians should gladly accept that a member of their family has a child with an Islamic partner.
The Italians should look the wrong way at one of them who goes around with Islamic people.
Italians should would avoid getting treatment from an Islamic doctor even if adequately qualified.

Collective Angst Scale (Wohl & Branscombe, 2009)

We ask you to read the following statements and indicate your degree of agreement or disagreement.

1 (completely disagree) 2 3 4 5 6 7 (completely agree)

I think that the future of the Italian way of life is under threat from abroad
I believe that external sources are purposefully trying to undermine the Italian way of life
I feel anxious about the threats Italian are currently facing from abroad
I am concerned about external threats to the Italian way of life
I think that the American way of life is in jeopardy due to foreign groups

Appendix D: Materials Described in Chapter 2 – Italian Version

Collective Future Continuity Questionnaire Similarity Subscale

Quanto saranno simili gli italiani tra 50 anni a quello che sono adesso?

1 (completamente differenti) 2 3 4 5 6 7 (completamente uguali)

Quanto gli italiani come sono adesso saranno simili a quelli tra 50 anni?
Quanto le credenze degli italiani odierne saranno simili a quelle che avranno tra 50 anni?
Quanto la cultura di oggi degli italiani sarà simile a quella che avranno tra 50 anni?
Quanto i valori odierni degli italiani saranno simili a quelli che avranno tra 50 anni?

Future Self-Continuity Questionnaire Vividness + Positivity Subscale

Per ciascuna delle seguenti affermazioni, indica il tuo grado di accordo.

1 (per nulla d'accordo) 2 3 4 5 6 7 (assolutamente d'accordo)

Quanto vividamente puoi immaginare come gli italiani saranno tra 50 anni?
Quanto vividamente riesci a immaginare la società italiana tra 50 anni?
Quanto vividamente riesci a immaginare come sarà la cultura degli italiani tra 50 anni?
Ti piace come saranno probabilmente gli italiani tra 50 anni?
Ti piace come sarà probabilmente la cultura degli italiani tra 50 anni?
Ti piace come sarà probabilmente la società tra 50 anni?

Measure of Group Prosocial Behavior Expectations (Hopkins et al., 2007)

In che misura i seguenti comportamenti sono rappresentativi degli italiani?

1 (per nulla) 2 3 4 5 6 7 (moltissimo)

Aiutare un compagno straniero in difficoltà.
Dare soldi a un ente di beneficenza indirizzato a persone fuori dall'Italia
Dedicare il proprio tempo a un'organizzazione di volontariato a sostegno dei non italiani.
Aiutare un compagno straniero in inconvenienza.

Prosocial Collective Efficacy Scale (Cuadrado et al., 2016)

In che misura i seguenti comportamenti sono rappresentativi degli italiani?

1 (per nulla) 2 3 4 5 6 7 (moltissimo)

Comportarsi in modo cooperativo.
Distribuire le risorse in modo equo.
Fare una divisione equa di un fondo monetario comune.
Adottare comportamenti orientati ad aiutare gli altri.
Condividere le risorse.

Prosocial Behavior Scale for Adults – Adapted from Carprara and colleguages (2006)

In che misura, secondo te, gli italiani dovrebbero mettere in atto i seguenti comportamenti?

1 (per nulla) 2 3 4 5 6 7 (moltissimo)

Aiutare gli amici/colleghi nelle loro attività
Condividere le cose che hanno con i loro amici
Provare ad aiutare gli altri
Essere disponibile per attività di volontariato per aiutare chi ha bisogno
Essere empatici con chi ha bisogno
Aiutare subito chi ha bisogno
Fare tutto ciò che possono per aiutare gli altri a evitare di mettersi nei guai
Provare a sentire intensamente quello che gli altri sentono
Be willing to make their knowledge and abilities available to others
Essere propensi a mettere a disposizione degli altri le proprie conoscenze e capacità
Prestare soldi o altre cose
Mettersi nei panni di chi è a disagio
Provare ad essere vicino e prendersi cura di chi ha bisogno
Condividere con gli amici ogni buona opportunità
Trascorrere tempo con gli amici che si sentono soli
Sentire il disagio dei propri amici anche quando non è stato comunicato direttamente

Modern Prejudice Scale (McConahay, 1986)

Rispondi alle seguenti frasi.

1 (per niente) 2 3 4 5 6 7 (moltissimo)

Gli italiani dovrebbero mischiarsi con gli immigrati.
Per gli italiani dovrebbe essere normale avere una relazione intima con un/a immigrato/a.
Per gli italiani dovrebbe essere normale frequentare luoghi dove vanno anche gli immigrati.
Gli italiani dovrebbero contrastare un matrimonio tra uno/a di loro e un/a immigrato/a.
Per gli italiani dovrebbe essere "figo" uscire con amici immigrati.
Gli italiani non dovrebbero avere nulla in contrario a lavorare alle dipendenze di una persona immigrata adeguatamente qualificata.
Gli italiani dovrebbero accettare che un membro della loro famiglia abbia un figlio/a con un/a partner immigrato/a.
Gli italiani dovrebbero guardare male uno/a di loro che va in giro con immigrati.
Gli italiani dovrebbero evitare di farsi curare da un medico immigrato anche se adeguatamente qualificato.

Collective Angst Scale (Wohl & Branscombe, 2009)

Per favore leggi le seguenti affermazioni ed indica il tuo grado di accordo o disaccordo usando una scala che va da 1 a 7, dove 1 = fortemente in disaccordo e 7 = fortemente d'accordo. Utilizza i punteggi intermedi per graduare le tue risposte.

1 (fortemente in disaccordo) 2 3 4 5 6 7 (fortemente d'accordo)

Penso che lo stile di vita italiano futuro sia minacciato dall'estero.
Credo che fonti esterne stiano provando a minare intenzionalmente lo stile di vita italiano.
Sono preoccupato/a per le minacce esterne allo stile di vita italiano.
Mi sento ansioso/a per le minacce dall'estero che gli italiani stanno adesso affrontando.
Penso che lo stile di vita italiano sia in pericolo a causa dei gruppi stranieri.