# The American Chill Pill:
# Tracking Demographic Changes in US Moral Rationalizations (1995-2020)

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Researchers have found that defense mechanisms are linked to moral reasoning. Age and sex are associated with defense utilization, wherein older individuals use mature defense mechanisms, and females use internalizing defenses. Research has identified that morality in society is declining. The present study evaluated the association of age, sex, and wave to rationalization in a situation involving moral reasoning. Age was hypothesized to correlate negatively with rationalizations, and females were hypothesized to utilize more rationalizations. Rationalization utilization was hypothesized to increase over time. Differences were found by age, suggesting older Americans were least likely to rationalize. Rationalization utilization increased over time among all ages. An interaction was found between age and wave, wherein the combination of variables predicted a participant's mean rationalizations. This study fills a gap in the literature by examining how rationalizations change in a nation, helping to understand how society's views on wrongdoings change with time.

*Keywords*: morality, moral justification, rationalization, defense mechanism, internalizing defense

Les mécanismes de défense seraient liés au raisonnement moral. La littérature suggère que la moralité serait en déclin dans la société. Les individus plus âgés utiliseraient des mécanismes de défense matures et les femmes des mécanismes de défense intériorisées. La présente étude vise à explorer l'association entre l'âge, le sexe et les rationalisations dans une situation impliquant un raisonnement moral. Les hypothèses étaient que l'âge corrélerait négativement avec les rationalisations, que les femmes utiliseraient plus de rationalisations et que les rationalisations seraient davantage utilisées avec le temps. Les résultats suggèrent que les Américains plus âgés étaient moins susceptibles de rationaliser. Une interaction a aussi été trouvée entre l'âge et le temps de mesure, l'utilisation de rationalisation augmentant au fil du temps pour tous les âges. Cette étude ajoute à la littérature en examinant comment la perception sociétale des actes répréhensibles varie au sein d'une nation et dans le temps.

*Mots-clés* : morale, justification morale, rationalisation, mécanisme de défense, défense intériorisée

As a fundamental part of human nature, morality serves to regulate the actions and behaviours of individuals. Morality is essential for society to thrive, allowing people to live amongst each other, to interact and cooperate (Janoff-Bulman & Carnes, 2013)– without it, society would descend into chaos. Whether they be capital crimes directed at others (like murder or kidnapping), or actions that, while less heinous, are still detrimental to relationships and society (like lying to a friend or spreading rumours), most individuals can make sound moral judgements. However, not everyone views morality the same way. Whereas some people may think an action is completely immoral, others may believe it depends on various conditions and circumstances, in accordance with Kohlberg's theory of moral development (1958). The way in which an individual rationalizes actions and behaviours can reveal information about a person or relationship. Indeed, the relationship regulation theory posits moral judgements differ based on the type of relationship in which the wrongdoing is occurring and the individual's identity within the relationship (Simpson et al., 2016). For example, a teenager yelling at their siblings is more justified than a teenager yelling at their teacher, due to the nature of the relationship and whether they are an equal or subordinate in the relationship. There will always be individuals who act immorally and disrupt societal order and peace, and there will also be individuals who view immoral actions as acceptable, making

excuses that justify why such an action is acceptable. An individual telling their best friend they like their new shoes despite finding them hideous will certainly justify telling a small lie as it is not harmful to anyone. However, sometimes individuals will justify actions that are not so harmless, and this seems to be the increasingly frequent case upon examination of political events in the United States in recent years, such as millions of Americans who continued to show support for the president after his many transgressions and vote for him in the 2020 election (NBC News, 2020).

It has been found that the moral reasoning process does not stop once an individual reaches adulthood as previously thought. Instead, individuals continue to develop their moral reasoning well into adulthood (Armon & Dawson, 1997). Through their research, Armon and Dawson have found that there are concrete changes in moral reasoning with age, such as moral reasoning becoming more complex with more individuals reaching post-conventional morality stages (defined as moral reasoning that may secede laws and instead uphold universal ethical principles [Kohlberg, 1958]). This typically only happens once they reach their thirties, and it continues to become more complex until individuals reach a decline in moral reasoning complexity in their elderly years. Researchers have also found that, contrary to findings of prior researchers (Gilligan, 1982), there are no significant sex differences in moral reasoning (Armon & Dawson, 1997). Other researchers have found that differences exist in moral reasoning between liberals and conservatives, such that liberals often find certain actions acceptable that conservative may not, and vice versa (Graham & Nosek, 2009). As society naturally changes over time and becomes more progressive, this could suggest that society's overall moral reasoning tendencies may also shift. As such, these findings may be indicative of individuals possibly finding more actions once considered as wrongdoings (behaviours that may be thought to cause harm, be socially unacceptable, or socially undesirable) acceptable with increasing age and over time. Clear historical markers, such as the end of the Prohibition Era in the United States, or the only recent legalization of gay marriage in the United States are indicators of this. In many cases, changes in moral reasoning can be beneficial, for example, most people today support gay marriage and believe that everyone deserves to marry whomever they love. However, other actions and behaviours can be harmful to everyone if society as a whole agrees that they are acceptable. For example, if moral reasoning changed such that most people find murder acceptable, crime would become rampant. Moreover, it is crucial to track how moral reasoning

changes in society over time by such variables as age, sex, and over time.

As such, the present study tracked Americans' use of moral rationalizations across three decades through an analysis of a large archival dataset drawn from the *World Values Survey* (WVS; Inglehart et al., 2020).

## Rationalizations in Today's American Political Arena

Citizens of the United States are no stranger to large-scale rationalization of either unacceptable or even immoral behaviour. For example, the former president Donald Trump has made many obscene remarks towards women and has even boasted about grabbing women inappropriately (Fahrenthold, 2016). Even more notable was Trump's obstruction of justice. When FBI Director James Comey investigated Trump's communications with Russia leading up to the 2016 election, Trump pressured Comey to stop the investigation. After Comey insisted on continuing the investigation with potential criminal charges, Trump fired Comey from his high-ranking position (Sherman, 2019). Trump's actions have even resulted in violence, specifically regarding the insurrection at the Capitol on January 6 2021. After weeks of undermining the 2020 federal election results, Trump urged his supporters to go to the Capitol to fight for his presidency. Mobs of supporters followed his directions, storming Capitol Hill, breaking into the Capitol Building, rioting, and vandalizing. After hours of violence and the deaths of several people and injuries to many others, Trump urged his supporters to go home, but did not condemn the violence and rage (Tan et al., 2021). Trump has committed other wrongdoings throughout his presidency as well, such as his continuous perpetration of the myth that the election was stolen (Rucker, 2020), and his withholding of $400 million worth of American taxpayers' military aid from Ukraine until they announced an investigation into Joe Biden and his family (Managan & Breuninger, 2020).

Countless political pundits have charged that Trump's actions launched an outright assault on democracy at home, creating a divisive and harmful political environment where millions of Americans questioned the legitimacy of their own government and the right to rule (Dimock & Gramlich, 2021; Freedland, 2020; McGee, 2020). But through it all, Trump's voter base continued to show their support for the president with over 74 million Americans voting for Trump (NBC News, 2020), thus justifying his actions.

## Justifications as the Defense Mechanism of Rationalization

Justifications can be described as actions taken unconsciously by an individual to reduce cognitive dissonance (such that one feels they are a moral person but knows they are about to commit or have committed a wrongdoing) regarding the individual's morality when engaging in moral transgressions (Shalvi et al., 2015). For example, if an individual knows it is wrong to commit infidelity and cheat on their spouse, but they know their spouse has been cheating on them, they may justify to oneself (thereby excusing the behaviour) that it is okay to cheat because they have been cheated on. This justification may reduce any cognitive dissonance (mental conflict occurring when two things are not consistent with each other within the individual's mind [Festinger, 1962]) regarding their morality as a person if they commit this transgression. The individual may then feel as if it is not a wrongdoing and feel comfortable committing the act, and thus feel as if they are still a moral person. For the purpose of this study, justifications will be described as the Freudian defense mechanism of rationalization.

Rationalization of wrongdoings are not exclusive to politics, but are something everyone does to some extent in their everyday life. Rationalizations are unconscious ways in which individuals make excuses for actions or behaviours, typically thought of as wrongdoings (Jones, 1908). Importantly, no two people will always make the same rationalizations, and it should be noted that Kohlberg (1958) asserts that people will rationalize certain actions under various circumstances. Given the increase in recent years of patterns of individualism (Kesebir & Kesebir, 2012), as well as the increasing rationalizing of wrongdoings for actions of the government, it can be argued that the moral landscape in the United States is changing, and individuals are increasingly rationalizing behaviours typically thought of as wrongdoings. Almost a century ago, Taylor (1923) identified individuals as having a constant need for rationalizing actions. People need to reason through their thoughts and intellectually compensate for their behaviours, giving rise to the frequent use of this defense mechanism and its place in moral decision making (Taylor, 1923). As well, defending and morality have been found to be highly related, wherein mature defending is associated with higher morality (Hart & Chmiel, 1992).

Defense mechanisms are unconscious psychological processes by which an individual resolves anxiety resulting from stressful thoughts and situations (Freud, 1937). Many defense mechanisms are outlined by psychoanalytic theory, some of which are healthy and adaptive, and others which are maladaptive and can be harmful if used too often (Freud, 1894). Generally, individuals use a variety of defense mechanisms in everyday life to work through stressful situations, and the chosen defense mechanism will typically depend on the situation. For example, to work through an unfortunate event like a job-loss, an individual may use the defense mechanism of humour, unconsciously working through amusing aspects of a situation to relieve anxiety and manage stress. Likewise, an individual facing a moral dilemma may use the defense mechanism of rationalization, the act of rationalizing an action, depending on the situation and its circumstances.

Defense utilization is thought to lead to the development of an individual's coping skills (Suls et al., 1996). Coping and defending are distinctly different psychological processes because defenses are unconscious and unintentional while coping is conscious and intentional (Cramer, 2000). However, it is thought that an individual's choice of defense reduces their perception of stress (Suls et al., 1996). In a recursive loop, this alleviation of stress impacts the coping mechanism one chooses to utilize, demonstrating why coping and defending are highly related. An individual who utilizes mature defense mechanisms will have a mature and realistic perception of stress, thus enabling them to utilize adaptive coping strategies. Likewise, an individual who utilizes psychotic or immature defense mechanisms will have an altered view on their reality of stress, leading them to choose maladaptive coping strategies.

Vaillant (2011) proposed a hierarchical model of defense mechanisms. At the bottom (and most immature segment) of the hierarchy are psychotic defense mechanisms, which are thought to be both harmful to the individual and ineffective at working through stressful events. One example of a psychotic defense mechanism is denial, by which an individual unconsciously refuses to believe a situation is happening such as evidence of a gambling addiction (Kline, 1993). Above psychotic defense mechanisms are immature defense mechanisms, which are commonly used by young adults and adolescents and include the defense of acting out, whereby the individual commits an unconscious impulse without thought of consequences. These defenses are considered normative among adolescents and even acceptable when used sparingly among adults (Cramer, 2012). However, theses defenses may be harmful and socially undesirable if used too frequently, resulting in undesirable behavior. For example, frequent acting out can result in social deviance, or frequent passive-aggression may result in damage to relationships. Next in the hierarchy are neurotic defenses. While still immature, they are considered slightly more mature than the previous defenses. Neurotic defenses, which can alleviate short-

term stresses, can be maladaptive if used too frequently. An example of a neurotic defense is rationalization, whereby an individual unconsciously makes excuses for a behaviour that is socially unacceptable. For example, a teenager may rationalize drinking alcohol at a party because everyone else is doing it, even though underage drinking is illegal. Finally, at the top of the hierarchy are the mature defense mechanisms, thought to be the most useful and adaptive when working through stressful events. Included is the defense of anticipation, which involves an individual unconsciously preparing for future stresses (Vaillant, 2011). For example, a student giving a speech at graduation may rehearse their speech weeks in advance to feel comfortable.

Defense mechanisms also differ in their expression. Some defense mechanisms are internalizing in nature, by which an individual unconsciously turns their stresses and expressions of the defense inward (Cramer, 1979). For example, rationalization is an internalizing defense mechanism as it involves the individual unconsciously rationalizing to themself why an action is acceptable. Other defenses are externalizing in nature, by which an individual unconsciously turns their stresses and expression of the defense outward (Cramer, 1979). For example, projection is externalizing whereby it involves the individual unconsciously projecting their stresses onto another person.

Importantly, defense mechanisms have also been found to differ based on several demographic characteristics, such as age and sex (Cramer, 1987; Diehl et al., 1996; Diehl et al., 2014; Levitt, 1991; Segal et al., 2007; Whitty, 2003).

## Age Differences in Defense Mechanism Use

Many researchers have taken developmental approaches to examine how defending changes throughout the lifespan. Findings have indicated that immature defense mechanisms are more common during earlier years of life and decrease throughout the lifespan (Segal et al., 2007). This results from normal developmental tasks of increasing independence and testing day-to-day limits, and corresponds to Kohlberg's Theory of Moral Development, which posits that moral development transforms throughout the lifespan and can result in rationalizing certain behaviours under different circumstances. In an early study on defending throughout the lifespan, it was found that a linear model of defense mechanisms was supported, with psychotic and immature defense mechanisms used most in earlier years of development, but more mature defenses used in older years of development (Cramer, 1987). In this study, uses of denial (a psychotic defense), projection (an immature defense), and identification (a mature defense) were examined among four different age groups: preschool, elementary school, early adolescent, and late adolescent. It was concluded that overall use of defenses increased with age, as did the use of more mature defending (and comparatively less psychotic and immature defending). According to Cramer, whereas defending is not used as frequently in younger years, the defenses chosen are most commonly psychotic and immature in nature. After examination of three age groups (17–23, 40–47, and 63–70), Whitty (2003) found further support for a linear model of defense mechanism use, whereas mature defending was positively correlated to age, such that middle and older groups used more mature defenses and fewer immature defenses compared to the younger group. Results indicated mature defending stabilized throughout adulthood, whereas no differences in mature defending between a middle and older group were found, suggesting a plateau model that perpetuates across adult years. Another study similarly supported a linear model, whereby maladaptive and immature defenses were significantly higher among younger participants than older participants (Segal et al., 2007). After examination of community-dwelling younger adults ($M$ = 19.7 years) and older adults ($M$ = 70.8 years), it was found that adaptive defense mechanism utilization was relatively stable throughout the lifespan. However, the younger sample displayed higher utilization of immature and maladaptive defenses, such as affiliation and somatization.

## Sex Differences in Defense Mechanism Use

Sex differences have also been found to be significant predictors of defending. Research comparing sex differences in defense mechanisms is consistent, wherein males demonstrate greater use of externalizing defenses, and females demonstrate greater use of internalizing defenses. Levitt (1991) supported this result, reporting that males have, in average, higher levels of externalizing defenses than females, and females have higher internalizing defenses than males. It was argued that these differences in defending may not simply be due to biological sex, but traditional gender roles. The same researcher asserted that females are traditionally socialized to internalize stress and emotions, and males are traditionally socialized to externalize stress and emotions, suggesting that in regions where traditional gender roles are highly emphasized, these sex differences in defending are exacerbated. Diehl et al. (1996) found similar sex differences in defending, whereby females tend to choose internalizing defenses, such as turning against the self (redirecting emotions about another person onto oneself), and males tend to choose externalizing defenses, such as reaction formation (turning an impulse into the

opposite). Like Levitt, researchers suggested that these sex differences are likely exacerbated by traditional roles and gender socialization (Diehl et al., 1996).

Other key sex differences have been found in defending, whereby internalizing defenses are more commonly used in females, and externalizing defenses are more commonly utilized in males. Cramer (1987) found that sex differences in internalizing and externalizing defenses were prevalent, and likely associated with younger age, suggesting that as age increases, sex differences should begin to converge. Whitty (2003) further corroborated these results, finding that females sought defenses that were more externalizing and problem focused. Diehl et al. (2014) found significant sex differences in common defense mechanisms, whereby females choose internalizing defenses such as rationalization more frequently than males.

The use of rationalizations has seldomly been exclusively explored in situations of moral reasoning and decision making, and research is needed on whether rationalizations are increasing with time and how they relate to variables in these contexts. Prior studies have failed to indicate how rationalizations of actions and behaviours change over time in the context of a group of people (such as a group of people in a country, as in the present study). Researching the way in which a group of people change in moral reasoning over time is imperative to determine the kinds of impacts such changes can have on a society. For example, increasing rationalizations for certain actions by society can lead to greater tolerance in a world with increasing diversity, possibly creating more compassion and empathy. Likewise, decreasing rationalization for certain actions could breed strife and hate, or lead people to feel restricted or as if they must hide. For example, abortion was legal in Texas. However, it is now illegal after six weeks of pregnancy, well before many even know they are pregnant (McCammon, 2021). These recent changes to abortion laws indicate a decrease in rationalizing abortion, causing many women to be afraid to obtain healthcare, as well as many physicians to fear for providing adequate healthcare. Moreover, it is important to understand the changes in the way a group of people, such as a society, changes in moral reasoning by key demographic factors like age, sex, and over time. As such, the present study seeks to fill this gap in the literature and determine whether these factors can help explain changes in moral reasoning.

Some commentators have argued that social morality is on the decline in the United States. To test the notion that America is shifting from a focus on communal values towards radical individualism, researchers conducted two separate studies to examine the frequency with which words related to morality appear in American literature (Kesebir & Kesebir, 2012). In these studies, researchers asserted that dominant cultural themes and messages are ingrained into cultural works such as literature, and thus conducted two studies to screen for the frequency of words related to morality in these works throughout the twentieth century. Between 1901 and 2000, it was found that nearly all the words related to morality (for example, decency and righteousness) were negatively correlated with time. Most notably in decline were words related to modesty of the self (humility and humbleness) and recognition of blessings (gratitude and thankfulness).

Similarly, other researchers have found that the focus on morals in society has shown a decline in recent decades. In a study conducted by Wheeler et al. (2019), researchers examined the frequency with which words related to morals appear in English language books between 1900 and 2007. Although it was found that words related to certain moral foundations (ingroup, harm, and fairness) were stable or rising over time, the frequency with which words related to ingroup and purity moral foundations, as well as words related to general morality were shown to decline steeply over time, only beginning to increase slightly once more in the 1980s, suggesting that the salience of morals in society ebbs and flows over time (Wheeler et al., 2019). Other researchers have found decreases in morality over time as well. In an archival study conducted in Europe, researchers sought to test the levels of trust in society and morality among individuals in Croatia, Slovenia, Bosnia, and Serbia (Lavric et al., 2019). Upon examination of surveys, it was found that respondents in all four countries indicated decreased trust in neighbours, colleagues and social institutions over time, and that respondents in all four countries increasingly rationalized committing transgressions such as accepting bribes and evading taxes (Lavric et al., 2019).

In addition to the decreasing focus on morals found by some researchers (Kesebir & Kesebir, 2012; Lavric et al., 2019; Wheeler et al., 2019), other researchers have found that the focus on harm and immoral concepts has been increasing, resulting in individuals becoming increasingly desensitized to such topics and violence and harm. Upon examination of a sample of American parents with children between the ages of 6 and 17, researchers found that the more parents were exposed to violent or sexual media content, the more desensitized they became and the more they indicated they would allow their young children to consume media containing such content (Romer et al., 2014). Importantly, it has been found by Fanti et al. (2009) that even over a short period of time, individuals

become quickly desensitized to scenes of media violence, feeling decreased empathy for depictions of crime on victims, and a preference for violent scenes over comedic scenes. Moreover, in a society where technology is highly accessible and millions of individuals consume media every day, it can be argued that the trends observed between increased violence and decreased empathy can impact why people may be questioning whether morality is declining. As such, researchers concluded that throughout the 20th century, society saw a steady decline in the focus on morality in society.

**Present Study and Hypotheses**

The purpose of the present study was to track Americans' use of rationalization (moral justification) by both age and sex using data from the WVS (Waves 3, 4, 5, 6, and 7). Based on research by Cramer (1987), Segal et al. (2007), and Whitty (2003) who found that the utilization of immature defenses decreases with age, it was hypothesized (H1) that age will be negatively correlated with rationalization, whereby older respondents will utilize rationalization less than younger respondents.

Based on research by Cramer (1987), Diehl et al. (1996), Diehl et al. (2014), Levitt (1991), and Whitty (2003) who found that females are more likely to use internalizing defense mechanisms and males are more likely to use externalizing defense mechanisms, it was hypothesized (H2) that females would demonstrate higher levels of rationalization (an internalizing defense) than males.

Finally, based on research by Taylor (1923) who argued that moral reasoning and argumentation were important for rationalizing behaviours to others, Hart and Chmiel (1992) who found that moral decision making was related to defending, and Kesebir and Kesebir (2012), Lavric et al. (2019), and Wheeler et al. (2019) who found that the societal focus on morals was on the decline, it was hypothesized (H3) that the use of the defense of rationalization would increase over time as Americans felt the need to rationalize more wrongdoings.

**Method**

For the present study, we used a cross-national time series design using data from the WVS (Inglehart et al., 2020), and included Waves 3 to 7 (1995-2020). Begun in 1981, the WVS compares respondents' social and political values. With responses from approximately 86,000 individuals from almost 60 nations, these data provide a reasonably accurate representation of the social and political state of a nation, both nationally and internationally. Through fieldwork conducted by each country's principal investigator (PI), surveys are typically conducted by a social scientist stationed at an academic institution. Surveys are delivered through structured questionnaires and administered face-to-face (recorded on either computer or paper). If respondents were unable to meet with the PI (due chiefly to regional isolation), the interview was conducted by phone. Questionnaires consisted of approximately 290 questions separated into 14 subsections that measure respondents' political and social attitudes.

For each wave, the WVS employed both stratified and probability sampling. Stratified sampling divides the entire national population into subgroups, from which random samples are drawn. Through probability sampling, the survey sets minimum sampling requirements for different countries, based on the overall population size. For example, although all countries must have a minimum sample size of 1200, exceptions are made for countries with less than 2 million residents (resulting samples approximate 1,000 surveys). The surveys are intended to be representative of the whole population aged 18-years and older. In some instances, the minimum age limit may be lowered if the sample size for the population of 18 years of age and older had been achieved. To maintain this, all respondents are randomly selected regardless of culture, language, and citizenship. In some instances, the PI can lower the minimum age requirement below 18 years.

For analysis, nonparametric tests were performed, which involved transforming raw data into ranked scores. Parametric statistics were then conducted, including the between-subjects factor univariate analysis of variance, Student-Newman-Keuls, and simple effects tests.

**Present Sample**

We selected only respondents from the United States for analysis, with roughly even sampling of male (n = 4280, 49.7%) and female respondents (n = 4340, 50.3%). Data volume varied somewhat by wave: Wave-3 (1995–1998, n = 1513, 17.6% of total), Wave-4 (1999–2004, n = 1196, 13.9%), Wave-5 (2005–2009, n = 1183, 13.7%), Wave-6 (2010–2014, n = 2175, 25.2%), and Wave-7 (2017–2020, n = 2553, 29.6%).

The data further offered us a reasonable breakdown of responses by age. Whereas the mean age across all waves was 46.29 years (SD = 17.02), we trichotomized the sample for each wave into younger respondents aged 18–35 years (n = 2764, 32.1%), middle-aged respondents aged 36–53 years (n = 2829, 32.8%), and older respondents aged 54–94 years (n = 3027, 35.1%).

## Justification Scale

The justification scale, used to represent actions deemed as wrongdoings to be rationalized, consisted of 10 items used universally across all five waves. They asked each respondent: "Tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between using a scale from 1 = *never justified* to 10 = *always justified*." The statements were the following: (1) *Claiming government benefits to which you are not entitled*; (2) *Avoid a fare on public transportation*; (3) *Stealing property*; (4) *Cheating on taxes*; (5) *Accepting a bribe in the course of their duties*; (6) *Homosexuality*; (7) *Prostitution*; (8) *Abortion*; (9) *Divorce*; (10) *Suicide*.

Although the full sample consisted of 8819 respondents, 199 were removed due to missing items in the justification scale (at least 4 missing among the 10). The attrition was not consistent across waves, supported by a significant chi-square statistic, $X^2 (4) = 78.16$, $p < .001$; review of the standardized residuals showed less than expected attrition (4 observed for 27 expected, residual = -4.4) in Wave-4, and more than expected attrition (66 observed for 28 expected, residual = 7.0) in Wave-5. Cronbach's alpha derived for the 10 justification items (across the full sample) was .804, with no evidence of stray or misbehaving items. A summary total was calculated based on the average of the completed 10 items, multiplied by 10, and then converted to a percentage ranging from 0% (never justified) to 100% (always justified).

It must be noted that although several of these variables are universally considered wrongdoings, some of these variables may not be seen as wrongdoings by everyone. For example, it can be said that most individuals would agree that the following wrongdoings are universally considered to be transgressions: claiming government benefits to which you are not entitled, avoiding a fare on public transportation, stealing property, cheating on taxes, and accepting a bribe in the course of one's duties. However, other wrongdoings in this study may be more controversial, as many individuals will not see these actions as transgressions, including the following: homosexuality, prostitution, abortion, divorce, and suicide. As such, two separate analyses were conducted: one analysis with only the universal wrongdoings, and another with the controversial wrongdoings.

## Results

A significance level of .05 was utilized for all analyses, conducted using SPSS (Version 25). Across all waves, the mean justification score was 24.95% ($SD = 15.96$), with a skewness of .717 ($SE = .026$) and kurtosis of .746 ($SE = .053$). Due to the mild deviation from normality, a nonparametric analysis (based on ranked scores) was conducted alongside the parametric statistic to confirm the parametric results without restriction from derivational assumptions. Table 1 shows the mean rationalization scores by age, sex, and wave of analysis. A between-subjects factor univariate analysis of variance included the rationalization percent as the dependent variable, and each of sex (male, female), age (younger, middle, older), and wave (3 to 7) as the independent factors. Results showed three significant main effects plus an age x wave interaction ($p < .05$).

## Main Effects

Males had significantly higher rationalization percentages ($M = 25.20$, $SD = 16.28$, $n = 4280$) compared to females ($M = 24.71$, $SD = 15.64$, $n = 4340$), $F (1, 8590) = 7.20$, $p = .007$, eta$^2 = .001$. The main effect for age was also significant, $F (2, 8590) = 159.81$, $p < .001$, eta$^2 = .036$. Follow-up Student-Newman-Keuls multiple comparison procedures showed that older respondents had lower rationalization scores ($M = 20.70$, $SD = 14.25$, $n = 3027$) compared to middle-aged respondents ($M = 25.11$, $SD = 15.22$, $n = 2829$), who had lower rationalization scores compared to younger respondents ($M = 29.45$, $SD = 17.19$, $n = 2764$). Finally, the main effect for wave was significant, $F (4, 8590) = 154.94$, $p < .001$, eta$^2 = .067$. Follow-up Student-Newman-Keuls multiple comparison procedures showed that respondents from wave-3 had significantly lower rationalization scores ($M = 16.80$) than respondents from waves 4, 5, 6 ($M = 25.05$, 24.48, 24.99, respectively; these means were not different from each other), whose rationalization scores were significantly lower than respondents from wave-7 ($M = 29.92$). Note that these results were confirmed using nonparametric alternative statistics.

## Interaction

Whereas both the sex x age ($p = .352$) and sex x wave ($p = .107$) two-way interactions plus the 3-way interaction ($p = .988$) were not significant, the age by wave interaction was, $F (8, 8590) = 3.07$, $p = .002$, eta$^2 = .003$. Figure 1 shows the mean percentage of rationalization by both age and wave of study. Table 2 reports the mean rationalization percentage by age and wave. Simple effects tests reveal that when controlling for wave, a consistent pattern emerged for all waves with one exception. For wave-3 only, whereas older respondents had lower rationalization scores than both middle and younger respondents (who were not different from each other), the pattern observed in waves 4–7 were significant differences among each of older, middle, and younger respondents, wherein rationalization decreased with age. Alternatively,

when controlling for age, both middle and older respondents exhibited a comparable pattern, wherein respondents from waves 3 had lower rationalization scores than respondents from each of waves 4, 5, 6; whose rationalization scores were lower than respondents from wave-7. The exception was observed among younger respondents, where rationalization was lowest at wave-3, followed by waves 4 and 5, then wave-6, and finally wave-7. Note that these results (based on ranked data) were confirmed using nonparametric alternative statistics.

## Universal vs. Subjective Wrongdoings

Overall, it appears that individuals rationalized subjective wrongdoings much more than individuals rationalized universal wrongdoings, suggesting that many individuals may not think the actions listed as subjective wrongdoings are wrongdoings at all. Main effects were observed for universal wrongdoings (see Appendix A), wherein there were differences in rationalizing universal wrongdoings by wave, sex, and especially age (younger participants rationalize more than middle-aged participants who rationalize more than older participants), as well as interactions (see Appendix A). For subjective wrongdoings, there were also main effects observed (see Appendix B), wherein there were differences in rationalizing subjective wrongdoings especially by wave (such that each successive wave saw increases in mean rationalizations, except for wave 4 and wave 5 which had no significant differences), as well as by age, but not by sex. There were also interactions observed (see Appendix B).

## Discussion

Regarding the hypotheses that age, sex, and wave can predict Americans' use of rationalizations between 1995 and 2020, findings were mixed.

### Rationalizations by Age

The first hypothesis–that age would be negatively correlated with respondents' use of rationalizations–was supported. As such, Americans who participated in the WVS were much more likely to rationalize a wrongdoing, such as abortion or prostitution, if they were in the younger group than the middle age and older groups. Still, a participant in the middle age group was more likely to rationalize a wrongdoing than a participant in the older group.

That older participants were less likely to rationalize a wrongdoing than middle age and younger participants supports existing literature of a negative linear relation between immature defense mechanism and age (Cramer, 1987; Segal et al., 2007; Whitty, 2003). As well, based on differences among the age

groups, these findings contribute to the progression of moral decision making throughout the lifespan. Findings were in support of an association between increasing age and decreased rationalization, possibly helping understand why it is that when people mature, they generally commit fewer transgressions, such as getting into legal trouble through actions like stealing (Steffensmeier et al., 1989). These findings offer further support to Kohlberg's (1958) theory of moral development, suggesting that morality may change throughout the lifespan. Differences between the three age groups may indicate that moral development does not stop once an individual finishes adolescence and reaches adulthood, but instead continues, and the utilization of the immature defense of rationalization decreases. However, it is possible that these findings result from cohort effects wherein older groups commit fewer crimes due to generational factors.

### Rationalizations by Sex

The second hypothesis–that female respondents would show higher uses of the internalized style of rationalization than males–was not supported. Rather, it was found that male respondents were more likely to rationalize an action than female respondents, including rationalizing actions such as cheating on taxes. These findings contradict the literature, which states that males are more likely to engage in externalizing defenses, and females are more likely to engage in internalizing defenses (Cramer, 1987; Diehl et al., 1996; Diehl et al., 2014; Levitt, 1991; Whitty, 2003). Upon examination of sex differences, although they are significant, differences between males and females for mean rationalizations are only within a few points of each other. It is possible that this is due to sex differences converging with increasing age, as suggested by Cramer (1987).

These findings contribute to the literature on the superego in Freudian theory. Freudian theory asserts that males have stronger superegos than females (Freud, 1933), suggesting that women have weaker superegos because of sex differences in development and notions such as penis envy. However, these findings suggest the opposite. If males offer more rationalizations on average than females, this is indicative of females having a stronger superego, and males finding a greater need to rationalize their wrongdoings. Perhaps males are more immoral than females, contrary to Freudian theory (Freud, 1933), or females are stricter than males. Interestingly, other researchers have suggested that women have stronger superegos than males, wherein they experience greater shame in wrongdoings and are more empathetic than men (Tangney & Dearing, 2002). It could be suggested then that men were more likely to rationalize the actions than women because women

felt greater shame towards committing such wrongdoings and greater empathy for victims of the wrongdoings. For example, women in this study may have felt more empathy for individuals and thus would not be able to rationalize stealing property from them. Future studies could explore these avenues.

**Rationalizations by Wave**

The final hypothesis–that the use of rationalizations would increase over time–was supported. Wave-3 had the lowest average use of rationalizations among all participants. Interestingly, Waves 4, 5, and 6 all had higher rationalizations than Wave-3 but were not statistically different from one another. Wave-7 however exhibited the highest average use of rationalizations compared to the other waves. This could be indicative of Americans becoming much more tolerant and relaxed over actions once thought of as transgressions, such as abortion and divorce, over time. It is possible that different societal factors, such as decreasing influence of the church, is impacting these increasing rationalizations. Perhaps, as fewer Americans are attending church and labelling themselves as religious individuals (Brenner, 2016), more Americans feel comfortable with actions typically thought of as transgressions by the church, like divorce and abortion, and thus are increasingly rationalizing them.

Although not hypothesized, we did observe an interaction between age and wave. Except for Wave-3, where older respondents had lower rationalization scores than middle age and younger respondents, a consistent pattern was observed where each age group consistently increased in their uses of rationalizations over time. As such, in each wave, older respondents rationalized on average the fewest actions, middle age respondents rationalized more than older respondents, and younger respondents rationalized more than middle age and older respondents. Moreover, from 1995 to the present, respondents in all age groups rationalized more wrongdoings.

These results are in support of the findings of Kesebir and Kesebir (2012) who found that the societal focus on morality has been declining in the United States in recent decades. If Americans are rationalizing more actions that have been deemed as wrongdoings, such as prostitution, cheating on taxes, and stealing property, then it can be inferred that they must have a reason to do so. Perhaps these actions are occurring more frequently in society, and Americans are findings the need to reduce the cognitive dissonance associated with committing or witnessing more frequent wrongdoings and their internal moral compass. As such, they unconsciously turn to the defense of rationalization and make excuses for why such behaviours are acceptable, thus becoming more relaxed over time rationalizing these transgressions. It could be presumed then that future generations of Americans would rationalize even more behaviours than Americans in Wave-7, and that average rationalizations will continue to increase over time as Americans continue to become more relaxed on rationalizing wrongdoings.

One example of such an occurrence is the frequent wrongdoings committed by politicians–individuals stereotypically rife with corruption; and by this we return to Trump. As the Republican nominee for president, over 60 million Americans voted for Trump in 2016, and over 70 million in 2020 (NBC, 2020). These people include everyday Americans who try to avoid committing wrongdoings just like the next person. Yet, when news stories surfaced about Trump's misdeeds, these same Americans may have unconsciously rationalized his behaviour to reduce cognitive dissonance (Jarcho et al., 2011). This could explain the large increase in mean rationalization from waves 4, 5, and 6 (which were not statistically different from one another), to Wave-7 (2017), corresponding to the Trump presidency.

Other political events may explain the sizable increase in rationalizations from Wave-3 to Wave-4. Wave-3 (1995–1998) showcased the lowest mean use of rationalizations and significantly lower than the next wave, Wave-4 (1999–2004). During this period, President Bill Clinton's affair with his intern Monica Lewinsky became sensational news and led ultimately to his impeachment. Many Americans were shocked to hear about such a scandal, and likely also felt dissonance having voted for Clinton. Many of these constituents likely felt a need to reduce this cognitive dissonance, and seeing such public occurrences of wrongdoings, rationalize more actions like their support for Clinton, utilizing the defense of rationalization to subdue this internal stress and thereby becoming more relaxed towards rationalizing such behaviours. Likewise, during Wave-4 (1999–2004), many political events occurred in the United States that could have increased Americans' use of rationalizations, namely the events surrounding the September 2001 terrorist attacks in New York, Washington D.C., and Pennsylvania; as well as President G.W. Bush's controversial invasion of Iraq (in search of the never-discovered weapons of mass destruction). Not only was 9/11 a traumatic experience, but it brought forth many changes to Americans' lives. Flights were suspended, the country's borders were closed briefly, and national security increased significantly, especially for airline travel. The Iraq War (2003) involved increased American presence in the Middle East, with staggering civilian casualties and military violence. Many Americans arguably felt the need to rationalize

an increase in such actions, and thus could explain why rationalizations increased during this time, and Americans once again became more relaxed towards rationalizing such grand displays of transgressions. Moreover, it can be concluded that Americans' use of rationalization for wrongdoings has increased over time, and that this is possibly due to the increase in cognitive dissonance experienced by many Americans as they watch political events and crises involving wrongdoings unfold with increasing frequency over time, such as the Monica Lewinsky scandal, the invasion of Iraq, and the many wrongdoings committed during the Trump presidency.

## Strengths

The present study contains several strengths that warrant mention. Firstly, it should be noted that the present study fills a major gap in the literature on the use of rationalization over time. Although prior research has examined changes in small groups of participants, prior research failed to examine how a large group of people change in moral reasoning over time and by factors such as age and sex. The present study fills this gap by bringing a large and diverse sample size of individuals from a society (the United States) and examining how Americans change in moral reasoning over time, by age and by sex. Importantly, the present study also brings a combination of parametric and non-parametric analysis to a large archival database, presenting a unique study design to answer the research question. The utilization of non-parametric analyses allows for greater statistical power in confirming the parametric statistics, which are slightly non-normal in this sample, as the sample is so large and diverse. The combination of parametric and non-parametric tests is also beneficial in analyzing the different types of variables (for example, the ranked rationalization scores). The unique design of this study is beneficial as it allows for rationalizations to be compared to events throughout the years, permitting individuals to predict which events brought about changes in rationalizing wrongdoings over time.

## Limitations

The present study has several limitations that warrant mention. To begin, the cross-sectional nature of the WVS may confound the association between age and rationalization levels. Although it was found that older respondents were less likely to use rationalizations than younger respondents (except for Wave-3), this could be due to cohort effects, whereby older generations rationalize fewer actions than younger generations. This could suggest that decreased levels of rationalization in older respondents would simply be due to generational effects rather than maturity in defense mechanisms. It

is possible that varying generations have unique views on rationalizing wrongdoings. For example, older generations, such as those that were drafted into a World War experienced a more collectivistic life, whereby they had to make personal sacrifices to fight in the war. These generations may find it more difficult to rationalize their own behaviours when they focused on the needs of the group over the needs of the individual for so many years (for example, giving up their youth to serve their country). They saw firsthand the effects of war, violence, and many other wrongdoings, and as such may be less likely to rationalize such actions because of their experiences. These generations often grew up very religious and may also find it harder to rationalize actions such as abortion and divorce, typically marked as sinful by many religions. However, younger generations may be more likely to rationalize their own behaviours, as many societies today are more individualistic than in the past. Current examples can be seen with the Coronavirus pandemic, wherein so many individuals focus on individualistic and self-focused desires of not wanting to wear a mask or follow store protocols instead of focusing on the needs of the group which is to protect society from the pandemic (Dinić & Bodroža, 2021).

The nature of the study, whereby participants were interviewed, either face-to-face or over the phone, as opposed to filling out a questionnaire, may have resulted in social desirability effects. This could mean that the rationalization levels reported may be lower than what respondents would truly answer, as respondents may have wanted to answer in such a way as to make themselves fit in with societal norms. For example, a participant may have thought that claiming government benefits to which they are not entitled is an acceptable action but answered that it was never justifiable as to appear more socially desirable.

Importantly, a limitation of this study is that many of the actions listed on the scale as wrongdoings are very subjective. Although some of the items on this scale are universally considered to be wrongdoings, such as stealing property and cheating on taxes, other items are subject to personal, religious, and cultural beliefs. For example, for some individuals, divorce may be viewed as a wrongdoing within their religion and as such, they may believe it to be a transgression. However, other individuals who do not share the same religious beliefs may not have these views, and thus may not view divorce as a moral transgression at all. Moreover, to compensate for this limitation, additional analyses with subjective and universal wrongdoings were conducted.

Finally, the design of the present study was not a causal design, and so no causal conclusions can be

drawn.

## Directions for Future Research

Future studies should examine a wide variety of actions to see how people of different ages and sexes rationalize a variety of wrongdoings. Perhaps other studies should look at more common occurrences; for example, many people in the study likely have never stolen something or had an abortion or divorce, although these are common occurrences. Future studies should examine a wide variety of wrongdoings, including more everyday occurrences, such as spreading rumours or lying. Importantly, future studies should examine a variety of externalizing and internalizing behaviours to encompass actions equally characteristic of men and women. Future researchers may benefit from studying sex differences in rationalization to determine whether males are more immoral, or females are stricter in rationalizations as they feel more empathy for the victim (Tangney & Dearing, 2002).

As well, future research on the use of rationalization with different populations is needed to determine whether people in other countries are displaying similar patterns of increasing rationalizations. Results would be informative as to whether this phenomenon is uniquely American, Western, or global.

Finally, it would be most beneficial to examine how the defense of rationalization relates to the broader picture of the association between coping and defending. Examination of how coping skills relate to rationalization can be informative in determining how people cope with actions they have done or may do, and what this means for their identity. For example, it would be beneficial to study the coping skills used by an individual who may rationalize major events in everyday life, such as abortion or divorce, sorting out how effectively an individual may be able to cope and how this translates to their self-image should they have to endure it.

## Conclusion

To conclude, findings in this study support the literature in suggesting that older individuals tend to use fewer immature defense mechanisms, like rationalization. It was demonstrated that older individuals are less likely to rationalize an action viewed as a wrongdoing than are younger individuals. Significant sex differences were found in the use of rationalization, whereby males were significantly more likely to rationalize an action than were females. This finding is contrary to prior research, which has suggested females would have been more likely to rationalize given their internalizing nature and as

women have been said to have weaker superegos. Rationalizations over time were indicative of overall increases in rationalization in the late 1990s and early 2000s, then a constant trend until 2017 wherein rationalizations increased once more. These findings suggest that there may have been crucial events in American society during these times that may have resulted in Americans tending to rationalize more wrongdoings to reduce any cognitive dissonance experienced by witnessing such transgressions occur in their society. Clinton supporters may have had to learn to rationalize their voting for him after the Monica Lewinsky scandal, everyday Americans may have had to learn to rationalize heavily increased political violence in the Middle East following the invasion of Iraq, and Trump supporters may have had to learn to rationalize their voting for him after the numerous wrongdoings he committed during his presidency, such as the insurrection at the Capitol. These increasing rationalizations thus have translated into Americans' everyday lives–after finding themselves having to constantly rationalize what was occurring in politics and society, they may have found themselves unconsciously rationalizing acts more frequently in their personal lives, thus becoming more relaxed on rationalizing transgressions with time. After witnessing corruption in the Trump presidency, many may have little qualms rationalizing taking government benefits to which they were not entitled.

Moreover, this study contributes to the body of research on the defense mechanism of rationalization by examining how rationalizing relates to age and sex, and how it changes in use over time in the context of moral decision making. As described by Taylor (1923), humans are rationalizing beings, unconsciously seeking reasons to compensate for their behaviours. Used sparingly, the defense mechanism of rationalization can aid in the short-term relief of stress –everyone makes mistakes in life, and sometimes people need to excuse their actions to get themselves through them. However, when used too frequently, rationalization can result in constant rationalizations of unacceptable behaviour, such as rationalizing extreme acts of political violence like the insurrection at the Capitol and the president's encouragement of it, resulting in impaired functioning, social rejection, and an overall decrease in the moral compass of a society whereby Americans are becoming numb to these transgressions and are increasingly relaxed in rationalizing them.

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Table 1

*Mean (*SD*) Rationalization by Wave, Sex, and Age*

| Wave (Years) | Younger (18-35) | | | Middle (36-53) | | | Older (54-94) | | |
|---|---|---|---|---|---|---|---|---|---|
| Sex | *M* | *SD* | *n* | *M* | *SD* | *n* | *M* | *SD* | *n* |
| Wave-3 (1995–1998) | | | | | | | | | |
| Males | 20.07 | 14.00 | 223 | 18.31 | 12.79 | 253 | 13.54 | 11.42 | 273 |
| Females | 19.03 | 12.91 | 229 | 18.38 | 12.54 | 234 | 13.14 | 11.25 | 301 |
| Wave-4 (1999–2004) | | | | | | | | | |
| Males | 29.12 | 16.44 | 213 | 25.35 | 15.70 | 174 | 21.42 | 13.23 | 119 |
| Females | 27.23 | 17.59 | 233 | 23.84 | 14.86 | 287 | 21.28 | 14.05 | 170 |
| Wave-5 (2005–2009) | | | | | | | | | |
| Males | 29.47 | 18.31 | 139 | 26.66 | 16.13 | 227 | 22.07 | 14.94 | 231 |
| Females | 26.45 | 16.31 | 169 | 23.32 | 14.41 | 194 | 21.18 | 14.30 | 223 |
| Wave-6 (2010–2014) | | | | | | | | | |
| Males | 30.33 | 17.71 | 536 | 25.27 | 15.98 | 337 | 21.18 | 14.19 | 458 |
| Females | 30.56 | 17.04 | 278 | 25.15 | 13.95 | 341 | 22.38 | 14.48 | 503 |
| Wave-7 (2017–2020) | | | | | | | | | |
| Males | 35.16 | 17.21 | 431 | 30.12 | 15.74 | 426 | 24.37 | 14.40 | 518 |
| Females | 33.93 | 15.74 | 591 | 28.98 | 14.57 | 356 | 23.49 | 13.74 | 231 |

Table 2

*Simple Effects Test for Age x Wave Interaction*

| Wave (Years) | Younger (18–35) | | | Middle (36–53) | | | Older (54–94) | | |
|---|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *n* | *M* | *SD* | *n* | *M* | *SD* | *n* |
| Wave-3 (1995–1998) | $19.54_a$ | 13.45 | 452 | $18.34_a$ | 12.66 | 487 | $13.33_a$ | 11.32 | 574 |
| Wave-4 (1999–2004) | $28.13_b$ | 17.06 | 446 | $24.41_b$ | 15.18 | 461 | $21.33_b$ | 13.70 | 289 |
| Wave-5 (2005–2009) | $27.81_b$ | 17.28 | 308 | $25.12_b$ | 15.44 | 421 | $21.63_b$ | 14.62 | 454 |
| Wave-6 (2010–2014) | $30.33_c$ | 17.71 | 536 | $25.27_b$ | 14.98 | 678 | $21.81_b$ | 14.34 | 961 |
| Wave-7 (2017–2020) | $34.45_d$ | 16.38 | 1022 | $29.60_c$ | 15.22 | 782 | $24.10_c$ | 14.19 | 749 |

*Note*. Column subscripts that are identical are not significantly different.

**Figure 1**

*Change in Justifications by Age and Wave*
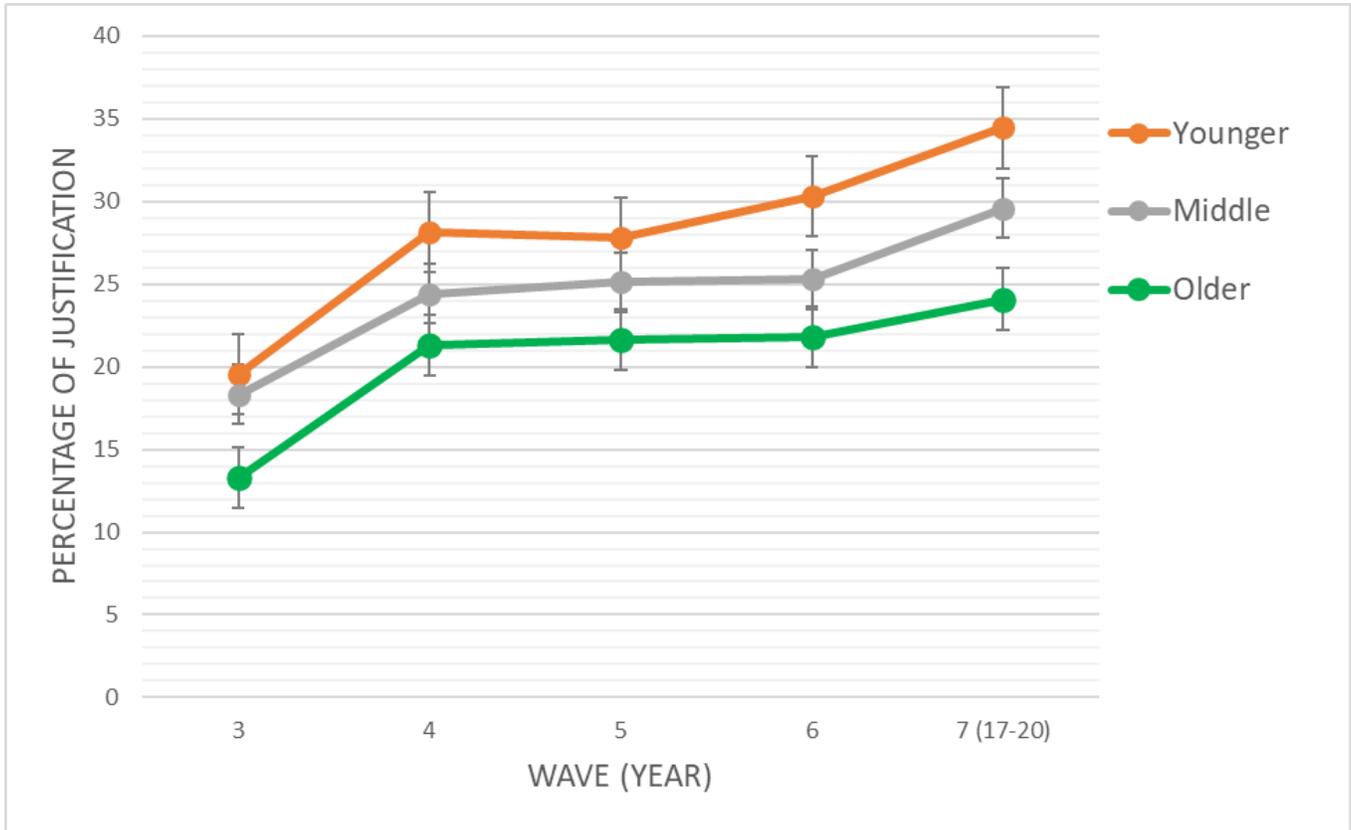
## Appendix A

## Universal Wrongdoings Statistics

*Mean (*SD*) Rationalization by Wave, Sex, and Age for Universal Wrongdoings*

| Wave (Years) | Younger (18–35) | | | Middle (36–53) | | | Older (54–94) | | |
|---|---|---|---|---|---|---|---|---|---|
| Sex | *M* | *SD* | *n* | *M* | *SD* | *n* | *M* | SD | n |
| Wave-3 (1995–1998) | | | | | | | | | |
| Males | 9.68 | 6.02 | 225 | 8.09 | 4.41 | 257 | 6.86 | 3.72 | 278 |
| Females | 8.65 | 5.05 | 232 | 7.57 | 4.25 | 237 | 6.48 | 3.12 | 303 |
| Wave-4 (1999–2004) | | | | | | | | | |
| Males | 13.71 | 8.53 | 214 | 10.23 | 7.02 | 174 | 8.49 | 5.11 | 120 |
| Females | 12.40 | 8.61 | 233 | 9.69 | 6.48 | 288 | 8.67 | 6.15 | 170 |
| Wave-5 (2005–2009) | | | | | | | | | |
| Males | 13.83 | 9.54 | 142 | 10.99 | 7.51 | 227 | 8.93 | 6.26 | 232 |
| Females | 11.39 | 7.58 | 170 | 9.34 | 6.52 | 196 | 8.32 | 5.82 | 225 |
| Wave-6 (2010–2014) | | | | | | | | | |
| Males | 13.92 | 10.19 | 260 | 10.04 | 7.54 | 340 | 8.18 | 6.13 | 460 |
| Females | 12.76 | 8.89 | 281 | 9.25 | 6.66 | 342 | 7.88 | 6.23 | 506 |
| Wave-7 (2017–2020) | | | | | | | | | |
| Males | 13.6 | 8.84 | 434 | 10.57 | 6.92 | 428 | 8.44 | 5.45 | 519 |
| Females | 13.01 | 8.02 | 597 | 10.51 | 7.40 | 360 | 8.89 | 6.50 | 232 |

Table A2

*Test of Between-Subjects Effects for Universal Wrongdoings*

| Variable | Degrees of Freedom (*df*) | F Statistic (*F*) | Significance (*p*) | Partial Eta Squared ($eta^2$) |
|---|---|---|---|---|
| Wave | 4. 8681 | 48.25 | $< .001$ | .02 |
| Sex | 1. 8681 | 20.30 | $< .001$ | .00 |
| Age | 2. 8681 | 228.75 | $< .001$ | .05 |
| Wave x sex | 4. 8681 | 2.33 | .053 | .00 |
| Wave x age | 8. 8681 | 3.64 | $<.001$ | .00 |
| Sex x age | 2. 8681 | 4.39 | .012 | .00 |
| Wave x sex x age | 8. 8681 | 0.15 | .997 | .00 |

**Appendix B**

**Subjective Wrongdoings Statistics**

Table B1

*Mean (*SD*) Rationalization by Wave, Sex, and Age for Subjective Wrongdoings*

| Wave (Years) | Younger (18–35) | | | Middle (36–53) | | | Older (54–94) | | |
|---|---|---|---|---|---|---|---|---|---|
| Sex | *M* | *SD* | *n* | *M* | *SD* | *n* | *M* | SD | n |
| **Wave-3 (1995–1998)** | | | | | | | | | |
| Males | 18.84 | 9.81 | 227 | 18.97 | 10.19 | 258 | 15.55 | 9.06 | 277 |
| Females | 18.53 | 9.82 | 231 | 19.32 | 9.80 | 237 | 15.62 | 8.92 | 303 |
| **Wave-4 (1999–2004)** | | | | | | | | | |
| Males | 21.66 | 10.44 | 214 | 21.36 | 10.50 | 174 | 19.70 | 9.52 | 120 |
| Females | 21.15 | 10.56 | 233 | 20.51 | 10.04 | 288 | 19.40 | 10.12 | 170 |
| **Wave-5 (2005–2009)** | | | | | | | | | |
| Males | 21.82 | 10.52 | 141 | 21.83 | 10.97 | 227 | 19.73 | 9.90 | 232 |
| Females | 21.25 | 9.87 | 169 | 20.48 | 10.03 | 195 | 19.59 | 19.74 | 223 |
| **Wave-6 (2010–2014)** | | | | | | | | | |
| Males | 24.52 | 11.61 | 258 | 24.42 | 11.42 | 337 | 22.69 | 11.30 | 459 |
| Females | 26.27 | 11.41 | 279 | 25.16 | 11.55 | 341 | 24.07 | 11.59 | 503 |
| **Wave-7 (2017–2020)** | | | | | | | | | |
| Males | 27.32 | 11.00 | 433 | 25.93 | 11.11 | 427 | 23.33 | 10.90 | 518 |
| Females | 26.67 | 10.47 | 596 | 24.72 | 9.94 | 358 | 22.16 | 10.06 | 231 |

Table B2

*Test of Between-Subjects Effects for Subjective Wrongdoings*

| Variable | Degrees of Freedom (*df*) | F Statistic (*F*) | Significance (*p*) | Partial Eta Squared (eta$^2$) |
|---|---|---|---|---|
| Wave | 4. 8658 | 142.93 | < .001 | .06 |
| Sex | 1. 8658 | .570 | .450 | .00 |
| Age | 2. 8658 | 42.20 | < .001 | .01 |
| Wave x sex | 4. 8658 | 3.66 | .006 | .00 |
| Wave x age | 8. 8658 | 2.39 | .014 | .00 |
| Sex x age | 2. 8658 | .33 | .716 | .00 |
| Wave x sex x age | 8. 8658 | .18 | .994 | .00 |