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More than "male" and "female": the role of gender identity in white-collar offending intentions

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Abstract

The gender gap in white-collar crime perpetration is well-established, yet reasons for women's underrepresentation among this offending group remain disputed. Specifically, scholars debate whether women are *socialized* against offending or whether they simply lack the *opportunity* to engage in these types of crime. The current study focuses on the socialization perspective, looking beyond one's gender assigned at birth and instead looking at gender identity, threats to that identity, and the interaction of race and gender identity. Using an online, experimental vignette design depicting embezzlement, we find that gender identity influences the likelihood of crime perpetration even when one's opportunity to commit crime is held constant. Future directions for research and theoretical development into gender and white-collar crime are discussed following a presentation of the results.

Keywords Gender · White collar crime · Embezzlement · Masculinity · Femininity

Introduction

Asset misappropriation by employees (also known as embezzlement) is a serious concern to all businesses. The Association of Certified Fraud Examiners (ACFE, 2020) estimates that the median loss for an asset misappropriation case is $100,000. While corporations and large businesses may be viewed as unsympathetic victims to many (Rai & Diermeier, 2015), these crimes result in financial harms that can cause unemployment or a loss of benefits to other law-abiding employees within

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a victimized business. As such, white-collar crime (WCC) scholars have long attempted to better understand both *who* commits embezzlement as well as *why* such occupational crimes occur.

One of the greatest debates in the current WCC literature is the role of gender in offending. While men tend to outnumber women in every other crime category (Dodge, 2019), women's perpetration of embezzlement is often equal to or greater than that of men (Ruhland & Selzer, 2020). To explain this phenomenon, scholars present two possible explanations: opportunity or gender socialization. The opportunity perspective posits that women are more likely to be involved in embezzlement because – unlike other WCCs that require more elite or executive positions in a company (e.g., antitrust, securities violations) – they are often employed in positions that allow them access to steal corporate funds (e.g., bank tellers, cashiers, treasurers; Daly, 1989; Dodge, 2016, 2019). In contrast, the socialization perspective argues that men and women learn different (gendered) social norms and that these learned values impact their likelihood and reasons for engaging in WCC (Klenowski et al., 2011; Piquero et al., 2013; Vieraitis et al., 2012). While both perspectives have their merit, gender and WCC research thus far has generally debated gender or sex differences, rather than placing *gender identity* at the forefront of investigation.

Following recent calls for white-collar crime research to explore the role of gender beyond explaining differences between people labeled as "male" versus "female" white-collar offenders (Benson & Harbinson, 2020; Galvin, 2020), the current study aims to better understand the role of gender's influence by looking at how one's gender identity, threats to that identity, and the interaction between race and gender impact the likelihood of embezzling. We used an experimental design whereby each participant's gender identity was threatened; after the introduction of gender threat, respondents read a hypothetical scenario depicting embezzlement and were asked to report the likelihood of committing such a crime. We also consider how white racial identity intersects with gender identity to influence offending intentions. We found modest but interesting support for our expectation that gender identity (proxying socialization) influences the likelihood of crime perpetration and proffer some suggestions for future research and theory development.

Literature review

Gender and white-collar crime offending

The gender gap in WCC perpetration is perhaps one of the most highly debated areas of WCC studies (Galvin, 2020; Holtfreter, 2015). Statistics show that women's engagement in elite-level WCC is nearly non-existent unless they are brought into a scheme by a man (generally because they have special access or a unique skill to assist in the crime or are in a relationship with one of the co-conspirators; Steffensmeier et al., 2013). Citing Enron as an example, Steffensmeier and colleagues (2013) indicated that only three of the thirty-four employees charged in that case were women – all of whom held an accounting position or were in a relationship with one of the "primary" offenders.

While statistics indicate that men are far overrepresented as offenders in serious WCC cases, research repeatedly shows parity in men and women's perpetration of low-level WCCs, such as embezzlement. This phenomenon was first demonstrated in Daly's (1989) study of individuals arrested for WCC in the 1970s; 45% of convicted bank embezzlers were women. Of all the crime categories assessed, embezzlement was the only category in which women were almost as likely as men to offend. Subsequent studies have supported this finding (e.g., Benson & Harbinson, 2020; Dodge, 2019; Holtfreter, 2013; Ruhland & Selzer, 2020).

This phenomenon is most often explained as supporting Simon's (1976) hypothesis that as women in the U.S. and western Europe are increasingly employed outside of the home, they have more opportunities to engage in certain types of crime – in particular, forgery, fraud, and embezzlement (commonly associated with occupational offending). WCC scholars continue to relate women's WCC offending characteristics to their limited occupational positions. In particular, they argue that increased rates of embezzlement among women are associated with increased employment in financial and middle-management positions by women (Dodge, 2016, 2019). These positions allow women to access corporate funds more easily, which in turn provides the opportunity for stealing funds. Additionally, the "glass ceiling" (i.e., the social barrier which prevents women from moving up in the workplace) prevents women from accessing large-scale corporate crime opportunities. Therefore, WCC offenders who are women tend to be younger, less educated, have lower incomes, and make less money from their crimes compared to men who engage in WCC (Daly, 1989; Holtfreter, 2013; Ruhland & Selzer, 2020).

Even when women are able to ascend to elite positions, a number of different social factors within the workplace limit their opportunities to offend. Some have argued that the business world is generally masculine, characterized by an "old boys club" which largely excludes and marginalizes women (hence, they are not included in offending groups). Others have argued that workplace environment builds off these masculine norms in ways that force women to be accountable to men (Elliot & Smith, 2004). Even in situations where men and women have similar skills or are in similar positions, men expect that women will engage in roles and workplace duties that are viewed as more traditionally feminine (e.g., answering phones, putting together presentations). For these reasons, compared to men, we see fewer women engaging in serious corporate crime when they reach these levels of employment.

Based on such evidence, it is clear why women would be more likely to engage in lower forms of WCC, such as embezzlement. The overall workplace structure, as well as the overly masculine culture of the corporate world, limits women's opportunities to engage in more "elite" forms of WCC. While this argument has been well supported by empirical literature, some scholars have more recently argued that the ways in which men and women are socialized upon the basis of their gender may prove key in explaining patterns in WCC perpetration as well.

The gender socialization perspective draws from sociological and psychological work which has investigated the ways in which men and women both think and act. Typically, men are thought to embody masculine norms which emphasize factors such as individualism, dominance, status/achievement, toughness, aggression, sexual prowess, and an overall lack of emotionality (Connell, 1987, 2005; Gilligan,

1982; Steffensmeier et al., 2013). Key to this is the gendered norm that men are supposed to be the "breadwinners" of the relationship, leaving the home to engage in wage labor as a means of supporting their family (Nakano Glenn, 2004; Steffensmeier et al., 2013). While all gendered norms of masculinity are important, the breadwinner status is one of the most salient for men. It is often the masculine characteristic that – should a man fail to achieve it – leads to feelings of "masculine threat" and will likely motivate quick efforts to rectify any discrepancy between one's perception of oneself and how others perceive him (Klenowski et al., 2011; Munsch & Gruys, 2018; Peralta & Tuttle, 2013). Such a phenomenon highlights the precariousness of manhood, whereby masculine identity is difficult to obtain but easy to lose (Vandello & Bosson, 2013; Vandello et al., 2008).

To further elaborate, the "masculine overcompensation thesis" posits that – when faced with a threat to their masculine identity – men will overcompensate through the temporary adoption of a *hypermasculine* ideology (e.g., homophobia, transphobia) as a means of reasserting their manhood (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013). Experimental tests of the thesis incorporating a falsified version of the Bem Sex Role Inventory (BSRI; Bem, 1974) supports this process – experiencing a "threat" to one's masculinity causes men to show less support for transgender rights (Harrison & Michelson, 2018) as well as increased support for violence (Willer et al., 2013), male superiority (Willer et al., 2013), and for the behavior of other sexually-coercive men (Munsch & Willer, 2012).

Women, it is argued, are socialized under a different set of gendered norms than men. These feminine norms emphasize the maintenance of interpersonal relationships with others; a higher emphasis on caring, nurturing, and social passivity; and preservation of beauty as well as sexual virtue (Connell, 1987, 2005; Gilligan, 1982; Lindsay, 2011; Steffensmeier et al., 2013). These norms are said to structure women's behavior in ways which lead them to attempt to minimize the harm that is done to others. Additionally, these traditional norms often position women to be the emotional caregiver of the family, where it is expected that they will provide emotional support to their children and intimate partner. In sum, women's gendered socialization emphasizes their moral responsibility as an "ethic of care" which emphasizes care for others above all else (Gilligan, 1982).

While "feminine threat" is ultimately under-researched in comparison to "masculine threat," the gendered socialization of women ultimately leads to the assumption that gendered threat has a differential effect on women in comparison to men. Due to a higher emphasis on social passivity (Connell, 1987, 2005; Gilligan, 1982; Lindsay, 2011) it is expected that a threat to a woman's identity would lead to a retreat from particularly masculine behavior or have little impact on behavior overall. Such a supposition is supported by the aforementioned studies' (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013) use of women as the comparative group. In fact, each of these studies found that "feminine threat" (administered in the same manner as the masculine threat) had no impact on women's behavior, albeit with one exception. Munsch and Willer (2012) found that women who received the experimental condition (i.e., threats to femininity) were significantly more likely to support the victim of a hypothetical sexual assault. This finding, they

concluded, may signify the respondents' retreat towards traditional femininity (i.e., nurturing, caring) due to the perceived threat to their identity.

With the nature of gender norms structuring behavior more generally, it is not surprising that they have been investigated as an influence of men and women's offending. While research has investigated masculinity within several different crime contexts (Messerschmidt, 2018), empirical work within the past few decades has attempted to explain the gender gap in WCC using gendered norms and socialization. Specifically, it is argued that men and women's morality will be influenced by their gendered upbringing (Benson & Simpson, 2009; Gilligan, 1982; Gottschalk, 2020). From this, men will be more likely to engage in serious WCC, as they are more likely to disregard rules if said rules impede their financial success, while women are more likely to engage in low-level WCCs, since minor crimes are less likely to harm others. Additionally, it is argued that men's WCC will be heavily derived from the need to "be a provider," while women will engage in WCC as a means of supporting others (Gottschalk, 2020; Klenowski et al., 2011).

Scholarship has previously tested the socialization perspective in numerous ways. Through qualitative interviews with convicted WCC offenders, Klenowski et al. (2011) found that men would often rationalize their WCC perpetration as a way to access much-needed money. Men noted that they engaged in WCC as a means of maintaining their expensive lifestyle, ensuring their "breadwinner" position in the home, or as a means of ensuring that their business did not go bankrupt (which would have been viewed as a "failure" in being a man). Women stated that their offending was associated with caring for others – specifically, the need to support their children or assist a loved one with an addiction. Such findings align with earlier work which indicated that women's embezzlement was driven by a desire to help others (Zietz, 1981). While both men and women stated that their offending was, in part, influenced by loopholes they found in their employer's policies (lending credence to the opportunity perspective), the motivations for offending largely aligned with traditional gender norms and expectations. This notion is further supported by empirical evidence indicating that women are less likely to target persons familiar to them when committing white-collar crimes (Dearden & Gottschalk, 2020).

In another test, Vieraitis and colleagues (2012; see also Piquero et al., 2013) sampled MBA students' offending intentions and techniques of neutralization using a vignette depicting a corporate crime scenario involving an unsafe medication. Here, women were significantly less likely to engage in offending that would put the public at risk, supporting the emphasis of an "ethic of care" being embodied by women. Interestingly, they found that men were more likely to have higher offending intentions if they supported specific techniques of neutralization – the denial of injury (i.e., the government exaggerates injury) or the appeal to higher loyalties (i.e., profit is most important). For women, denial of injury as well as denial of responsibility (i.e., believing that it is acceptable to do anything to make a profit unless it was against the law) were predictive of increased offending intentions. These findings offer mixed support for the socialization perspective – there is some overlap in the use of denial of injury, and both men and women cite the need to take money in order to support others. Such findings are supported by recent work by Benson and Harbinson (2020) where it was found that men and women convicted of WCC

shared similar criminal thinking styles. Notably, though, men and women use gendered language (emphasizing the "breadwinner" role for men and the "caretaker" role for women) to explain their motives (Vieraitis et al., 2012, p.488).

This summary of the literature leads to several different hypotheses focused on the role of gender in WCC offending intentions. The socialization perspective argues that men and women's gendered socialization informs their WCC perpetration. More specifically, men's socialization to be the "breadwinner" will increase offending likelihood, while women's socialization towards passivity and nurturing will decrease offending intentions (Connell, 1987, 2005; Gilligan, 1982; Lindsay, 2011). We hypothesize that given the same opportunity structure; *women will be less likely to engage in embezzlement in comparison to men* (hypothesis 1). Furthermore, the gender threat literature implies that men who experience threats to their masculinity will be *more* likely to engage in hypermasculine behaviors. As such, we hypothesize that *men whose gender identity is threatened will be more likely to engage in embezzlement than non-threatened men* (hypothesis 2). In juxtaposition, research has shown that threats to women's gender identity have no impact on behavior or will lead to a retreat towards traditional femininity. This leads us to hypothesize that *women whose gender identity is threatened will be less likely to engage in embezzlement than non-threatened women* (hypothesis 3).

Gender, whiteness, and white-collar offending

Both the opportunity and socialization perspectives emphasize gender as the important identity characteristic that explains white-collar criminal behavior, to the neglect of other individual-level factors. While gender may be seen as a key factor in WCC, race, particularly white racial identity, appears to play a role as well. Research comparing WCC offenders to "traditional" offenders has long found that these offenders are older white men (Klenowski & Dodson, 2016; Weisburd et al., 1990, 1991). However, within the WCC label, the demographics of offenders differs by the type of crime. As described above, women are more represented among "low-level" white-collar convictions such as embezzlement. Recent research by Benson et al. (2021) indicates that non-white individuals (specifically, Asian- and Latine-Americans) are increasingly represented in U.S. WCC conviction statistics. Using data from the Equal Employment Opportunity Commission, they compellingly ascribe this finding to enhanced opportunities in the labor market over time. Notably, the racial/ethnic diversification of WCCs are generally limited to "low-level" crimes.

Although the characteristics of WCC offenders are often discussed in previous research, what remains underexplored within WCC literature is how one's race and gender identity, together, inform offending intentions. As noted by a number of scholars (Crenshaw, 1993; Hill Collins, 1998; Potter, 2013) an individual's identity consists of multiple intersecting social characteristics. These intersectional identities structure not only the individual's behavior, but also the ways in which society responds to them. With WCC offending being so intrinsically characterized by older white men, it can be expected that some combination of both white and gendered privilege leads these men to dominate this crime-type.

Indeed, intersecting social identities have been found to influence WCC cases. As indicated by Liu and Miller's (2019) case study of Martha Stewart and Sam Waksal, an intersection of gender and socioeconomic status allowed them to navigate their cases in differing manners. Stewart was able to employ a masculine response – stating that she would aggressively fight her case – due to her financial situation and celebrity status. In contrast, Waksal employed a more "feminine" approach by expressing severe remorse for his crimes while being able to maintain his masculine status due to his high financial success. Liu and Miller's (2019) study shows that socioeconomic status can allow WCC perpetrators to shift their gendered performances in a way that garners greater public sympathy or support.

While Liu and Miller's (2019) case study discusses socioeconomic status, to date, little has been done to discuss the influence of racial identity on WCC offending. Recent work by Sohoni and Rorie (2019) has attempted to explain why it is that whites tend to be highly represented among elite WCC offenders. They argue that white racial privilege intersects with socioeconomic status such that whites are more often raised in environments where they are relatively isolated from other racial categories (Logan & Stults, 2011) and are generally economically advantaged in comparison to other races. For example, whites primarily account for the majority of top executives in corporations which promotes racial isolation within the workplace. Whiteness and privilege (coupled with being isolated from other perspectives) promote "broad cognitive frameworks" among offenders – specifically, increased entitlement and competitiveness as well as diminished empathy for others (Sohoni & Rorie, 2019). These broad cognitive frameworks then have an impact on "crime-specific cognitive frameworks" such as neutralization techniques and perceptions of self-criminality related to specific crime situations. In essence, white racial privilege and upbringing leads to the belief that WCC offending is less harmful. Such arguments align with the findings of other work which indicates that offending intentions, particularly in men, are seen as valid and a non-issue by perpetrators when they can justify financial success as "deserved" for their hard work (Klenowski et al., 2011; Vieraitis et al., 2012).

What is also important to note here is that both Liu and Miller (2019) and Sohoni and Rorie (2019) discuss elite level white-collar crimes (e.g., insider trading, corporate fraud) at the intersection of gender, race, and class identities. Such suppositions have not been applied to lower level WCCs, such as embezzlement, where the gender and racial makeup of offenders is vastly different. To account for these limitations in prior literature, we present several hypotheses assessing the influence of both white racial identity and gender.

First, we hypothesize that *white women will be more likely to commit embezzlement in comparison to non-white women* (hypothesis 4). This hypothesis is based off Sohoni and Rorie's (2019) framework arguing that white racial privilege leads to higher WCC offending for whites in comparison to non-white individuals. Concurrently, we hypothesize that *white men will be more likely to engage in embezzlement than non-white men* (hypothesis 5) for the same reasons. Our final hypothesis is based upon extant literature arguing that men's socialization leads to higher WCC offending, as well as the influence of white privilege on offending intentions.

Therefore, we hypothesize that *white men will be most likely to commit embezzlement in comparison to all other gender/racial categories* (hypothesis 6).

Current study

Using an online, experimental vignette, the current study adds to the body of literature regarding gender and white-collar crime in a number of ways. First, gender identity itself is at the forefront of empirical investigation. While previous studies have attempted to discuss gender as an influence of WCC offending intentions, many of these studies have focused on gender or sex differences (Daly, 1989; Dearden & Gottschalk, 2020; Steffensmeier et al., 2013), rather than *gender identity* as a potential influence. Second, this study tests how threats to said gender identity (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013) may influence the likelihood of WCC perpetration. Finally, this study adds to the race and WCC literature (Benson et al., 2021; Sohoni & Rorie, 2019) by assessing the interaction of gender and racial identity as a potential influence of embezzlement perpetration.

Method

Sample

Data for this study were collected using Amazon's MechanicalTurk (MTurk) webservice (N = 712). MTurk provides a convenience sample of participants from across the globe and can be used to generate samples which have demographics that are more diverse than typical university student samples (Follmer et al., 2017) as well as samples that are more representative of the general US population than those from other online panels (Heen et al., 2014; Paolacci et al., 2010; Thomas & Clifford, 2017). Further, there is a growing amount of evidence that data quality is better among MTurk samples than samples of university students or other populations (Chandler & Shapiro, 2016; Follmer et al., 2017; Goodman et al., 2013; Gosling et al., 2004; Hauser & Schwarz, 2016; Maeder et al., 2018; Peer et al., 2014).

MTurk also allows researchers to place specific qualifications on participants, which has been shown to ensure better data quality (Matherly, 2019). The current study required participants to be at least 18 years of age, have a 90% + MTurk approval rating, and have over 500 + completed surveys. Additionally, all participants were required to live within the United States at the time of their participation. All participants were compensated $1.35. Descriptive statistics for the overall sample can be found in Table 1.

Although we used a variety of quality assurance mechanisms to enhance responses, we ultimately recognize that MTurk provides a convenience sample of online survey takers and – as such – the findings presented here are not necessarily generalizable to the broader public. However, comparisons of the sample's individual characteristics to 2020 U.S. Census data (United States Census Bureau, 2022)

Table 1 Sample descriptive statistics

Variable	n	Min	Max	Mean	Std. Dev
Embezzlement	622	0	1	0.31	0.46
Age	657	19	74	37.09	11.43
SES	657	0	6	2.69	1.42
Women	654	0	1	0.48	0.50
White	660	0	1	0.73	0.45
Women*White	657	0	1	0.36	0.48
Education	657	0	8	4.25	2.04
Conservative/Moderate	666	0	1	0.27	0.44
BSRIMasc	608	1.45	6.52	4.42	0.88
BSRIFem	594	1.60	6.52	4.47	0.72
MascThreat	630	0	1	0.50	0.50
FemThreat	630	0	1	0.50	0.50

indicate that the sample "looks like" the general U.S. population in important ways. Regarding gender, 48% of our respondents identified as female compared to 50.5% in the 2020 U.S. Census. Further, 73% of our sample identified their race/ethnicity as White/Caucasian compared to 75.8% in the 2020 Census. About 89.4% of our sample reported educational attainment equal to or above graduating high school, compared to 88.9% of the U.S. population. The median household income in our sample landed in the range of $30,001 – 50,000, indicating that our sample may occupy slightly lower socioeconomic strata compared to the US population (whose median household income in 2020 was $69,021). As might be expected from an online recruitment effort, people over the age of 65 were underrepresented in our data (about 3% of our sample compared to 16.8% of Census respondents).

Measures

Dependent variable Participants were asked to respond to a vignette which depicted them in an embezzlement scenario as a middle manager (see Appendix A). While some have criticized the ability of vignettes to replicate real world scenarios (Eifler, 2010), vignettes are powerful tools in ensuring the standardization of stimuli across participants (Wallander, 2009; Xiang & Clarke, 2003). Further, the first-person language used in our vignette (i.e., "you work at…") has been found to assist in verbal immediacy and increase the level of realism in the scenarios for participants (Persky et al., 2007; Winterbottom et al., 2008). Additionally, some argue that vignettes reduce issues of social desirability often associated with self-reports of deviant or illegal behavior as participants can report their hypothetical behavior without the risk of consequence (Wallander, 2009).

Upon reading through the vignette, participants were asked to report how likely they were to embezzle money from their employer on an 11-point Likert scale (0 = 0%—10 = 100%). Univariate analyses indicated a skewness towards the lower end of the scale (see, Fig. 1). Due to the non-normality of the distribution, we tested

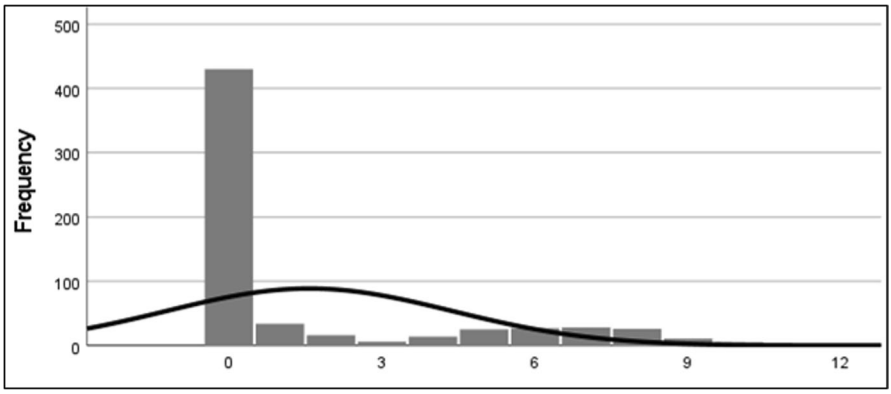

Fig. 1 Histogram indicating the distribution of embezzlement perpetration likelihood

various categorical measures of the dependent variable including a three-tiered version indicating low, medium, and high likelihood of perpetration. Model fit indices of tests using ordinal logistic regression showed poor fit for such categorization. Therefore, due to this non-normality, and the nature of the hypotheses (e.g., likelihood of perpetration), we dichotomized the variable for all analyses (*Embezzlement*; 0 = no chance of perpetration, 1 = 10% or more chance of perpetration).

Independent variable – experimental manipulation To administer the gender identity threat to the participants, this study used an experimental manipulation involving the Bem Sex Role Inventory (Bem, 1974). Such methods have been used in previous studies (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013) and have been found to be successful in administering gender identity threat across several different contexts. At the beginning of the survey, participants were asked to complete the BSRI. Participants were then randomly assigned a falsified score. This falsified score served as the experimental condition for the study (i.e., gender identity threat; see Fig. 2). For example, those who reported their gender identity as "woman" would randomly be assigned to either 1) the control group, in which they received a figure indicating that their totaled score fell within the "traditionally feminine" range or 2) the experimental group, in which they were told that their totaled score fell within the "traditionally masculine" range. For respondents identifying as "men", the control group included men seeing that their score fell within the "traditionally masculine" range while the treatment group included those men who were informed that their scores fell within the "traditionally feminine" range. These falsified scores are not representative of the actual BSRI scoring in any way, they simply served as a visual means of administering the experimental/control conditions (i.e., gender threat) to participants.

To account for threats to gender identity in the forthcoming analyses, two dichotomous variables were created: *MascThreat* and *FemThreat*. The *MascThreat* variable separates the men in the sample who received the masculine threat condition from those who were randomly assigned to the control group (0 = non-threatened;

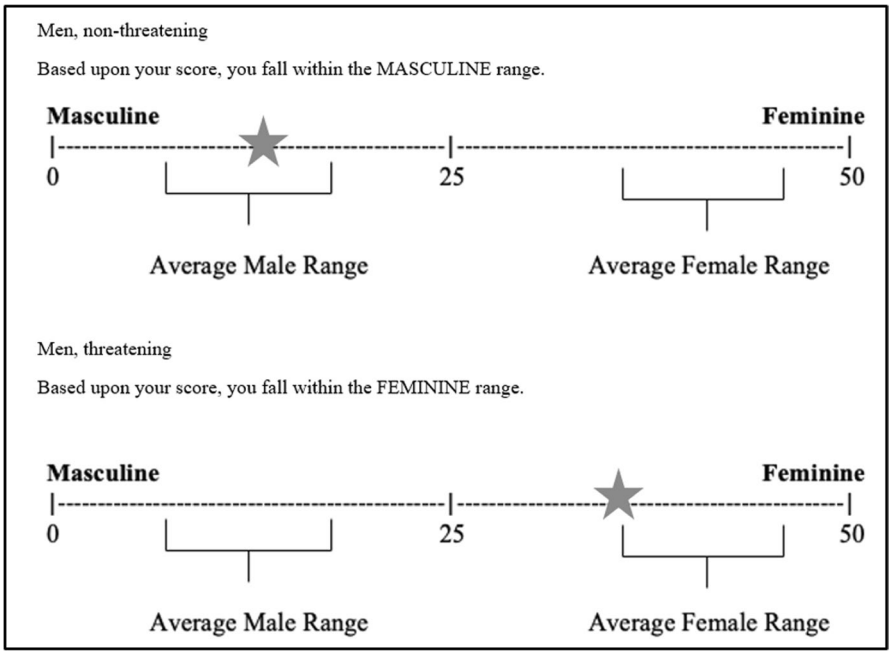

Fig. 2 Gender identity threat manipulation

1 = threatened). Similarly, *FemThreat* refers to women who were randomly assigned to the feminine identity threat experimental condition (0 = non-threatened, 1 = threatened).

Due to the experimental nature of the study, the university IRB that approved this data collection (approved protocol 1,471638–4) required that all participants have the opportunity to re-assent to their participation following completion of the survey. Specifically, participants were provided the opportunity to have their answers removed from the data after completing the survey but prior to the researchers' analyses. A total of 46 participants wished to have their data deleted, resulting in a total sample size of 666.

Independent variables – measured To determine the respondent's gender identity, we asked them to self-report the gender that they identify as (i.e., man, woman, transman, transwoman, other).[1] Additionally, we used the BSRI (Bem, 1974) to obtain a score of the respondent's "masculinity" and "femininity." This scale uses a panel of 60 items detailing characteristics which are often associated with masculinity (e.g., dominant, forceful) and femininity (e.g., affectionate, tender).

[1] In total, three participants identified as transmen and four participants identified as "other." Due to the small sample sizes in these gender categories, these participants were excluded from subsequent analyses.

Participants are asked to rate how they perceive that the item describes them on a 7-point Likert scale (1 = never or almost never true to 7 = almost always true). Twenty of the items included in the scale are aimed at measuring masculinity and an additional twenty assess femininity. The remaining twenty items are used as filler items. The scores from the 40 items are averaged into two different scales; the mean "masculinity" and "femininity" scores are used in subsequent analyses. Note that these scores were not seen by the respondents – only the "threat" messaging (described above) was observed.

As previously mentioned, recent work regarding WCC has speculated that white racial identity influences the likelihood of WCC perpetration (Sohoni & Rorie, 2019). In order to assess this assertion, demographics regarding the participants' racial identities were gathered. This information was used to create a dichotomized variable comparing white to non-white participants (*White*; 0 = non-white; 1 = white).

Control variables Additional demographic information was gathered from participants, including age (continuous), total household income (*SES*; 0 = $0 – 10,000 – 6 = over $150,000), educational attainment (0 = High school or less (no diploma) – 6 = Graduate degree), and political ideology (1 = Very liberal – 7 = Very conservative). Such variables were included in the subsequent models to control for the supposition that WCC offenders are typically older, middle-to-upper class individuals who are highly educated (Barnett, 2000; Sutherland, 1940, 1941). Prior to analysis, political ideology was dichotomized into the variable, *Conservative/Moderate* (0 = liberal, 1 = conservative/moderate). Political conservatism was of particular interest as a control variable, as some literature has indicated that conservatives and moderates view WCC as less of an issue in comparison to liberals (Holtfreter et al., 2008; Kroska et al., 2019; Lochner, 2004). In alignment with prior literature (see, Holtfreter et al., 2008) we combined conservative and moderate, using liberal as a reference category.

Analytic strategy

Below, we present results from a series of independent sample *t*-tests that compare the likelihood of embezzlement perpetration between men and women. Additional *t*-tests were conducted to test whether men and women who experienced gender identity threat, as well as whether those who identified as white versus non-white, were more likely to engage in embezzlement.

Following the *t*-tests, we present a series of logistic regressions that assess which variables predicted the likelihood of embezzlement perpetration for men and women while controlling for a number of different variables (e.g., SES, education, conservativism). To assess how gender and race intersect to inform offending intentions, the first presented logistic regression uses the full sample of participants and introduces an interaction term (*Woman*White*) aimed at testing whether white racial identity interacts with women's gender identity to influence offending. Next, to better assess the variables that influence men and women's embezzlement perpetration,

Table 2 Independent sample *t*-tests assessing embezzlement perpetration differences among various individual characteristics

Mean likelihood of offending – Group A (Standard Deviation)		Mean likelihood of offending – Group B (Standard Deviation)		*t*-test value
By Gender Identity				
Women	0.26 (0.44)	Men	0.35 (0.48)	0.013*
By Gender Threat				
Threatened Women	0.30 (0.46)	Non-Threatened Women	0.22 (0.42)	0.117
Threatened Men	0.36 (0.48)	Non-Threatened Men	0.35 (0.48)	0.845
By Race				
Non-White Women	0.27 (0.45)	White Women	0.26 (0.44)	0.869
Non-White Men	0.33 (0.47)	White Men	0.36 (0.48)	0.641

*$p < 0.10$

we ran logistic regressions separately for men and women. To assess the influence of one's masculinity or femininity on embezzlement perpetration, the raw BSRI scores were introduced into the regression models. Both of the BSRI masculinity and femininity scores were included in the models for both men and women; this is meant to account for the multiple masculinities/femininities argument, which posits that gender identity is not necessarily characterized by embodying only masculinity or femininity, but rather a combination of both (Bridges, 2010; Bridges & Pascoe, 2014; Messner, 1993). Finally, to account for the potential influence of gender identity threat on perpetration, the model for men included a dichotomized variable (*MascThreat*; 0 = non-threatened, 1 = threatened) of the experimental condition administered in the survey. The same was done for the model assessing women's perpetration (*FemThreat*; 0 = non-threatened, 1 = threatened).

Results

Table 2 shows the results for all *t*-tests assessing differences in embezzlement intentions by gender identity, gender threat, and race. Results indicate that a larger percentage of men reported a non-zero likelihood of offending compared to women (35% vs. 26%). This difference was found to be statistically significant, $t(614.895) = 2.504$, $p = 0.013$, in turn, supporting our first hypothesis that women would report lower offending intentions than men.

Regarding gender threat, no statistically significant differences were found between non-threatened (30%) and threatened women (22%) in regard to their embezzlement perpetration, $t(284.669) = 1.573$, $p = 0.117$. The findings indicate that – although not statistically significant at conventional levels – there is reason to believe that gender threats may decrease women's intentions to offend in line with Hypothesis 3. Threatened women's lower reporting likelihood lends itself to the explanation of retreatism towards traditional femininity as presented in Munsch and Willer (2012).

Table 3 Logistic regression model assessing variable's influence on embezzlement perpetration

Predictor	OR	SE(*b*)	OR	SE(*b*)
Age	0.922***	0.012	0.922***	0.012
SES	0.887	0.080	0.888	0.080
Woman	0.823	0.228	0.983	0.405
White	1.362	0.232	1.504	0.299
Woman*White			0.780	0.468
Education	1.148**	0.053	1.149**	0.053
Conservative/Moderate	2.682***	0.233	2.706***	0.234
BSRIMasc	1.286*	0.125	1.283*	0.125
BSRIFem	1.323	0.156	1.328	0.156
MascThreat	0.862	0.205	0.867	0.205
FemThreat	0.709	0.204	0.700	0.205
Constant	0.405	0.914	0.376	0.926
Nagelkerke R^2		0.235		0.235

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Similar results were found among the men in our sample, whereby no significant differences were found in the likelihood of embezzlement perpetration between non-threatened (34%) and threatened men (36%), $t(315) = -0.195$, $p = 0.697$. Such findings fail to support hypothesis 2, where it was stated that men who experienced threats to their gender identity would be *more* likely to engage in embezzlement than non-threatened men.

Race also failed to exert an influence on offending intentions; the results show little differences in embezzlement perpetration between non-white women (27%) and participants who identified as white women (26%); the difference was not statistically significant, $t(126.680) = 0.165$, $p = 0.869$. These findings do not support the notion that white women will be more likely to engage in embezzlement than non-white women (Hypothesis 4).

Finally, the results indicate no significant difference in white men's (36%) embezzlement perpetration in comparison to non-white men (33%), $t(165.752) = -0.470$, $p = 0.639$. Such findings do not support hypothesis 5, which stated that white men would be more likely to engage in embezzlement in comparison to non-white men. Although not statistically significant, white men did report the highest likelihood of engaging in embezzlement perpetration – this somewhat lends support to hypothesis 6.

Table 3 provides the results for the first logistic regression which tests the influence of all explanatory variables, including the interaction term, *Woman*White*. Age significantly decreases the likelihood of offending ($OR = 0.922$, $p < 0.001$). For every one-point increase in age, the likelihood of embezzlement perpetration decreases by about 8%. Additionally, education was found to increase embezzlement perpetration ($OR = 1.149$, $p = 0.010$), which aligns with literature indicating that the typical white-collar offender is highly educated (Lochner, 2004). Each increase in education was found to increase the likelihood of perpetration

Table 4 Logistic regression model predicting women's embezzlement perpetration

Predictor	OR	SE(*b*)
Age	0.918***	0.017
SES	0.779	0.142
White	1.187	0.385
Education	1.204*	0.090
Conservative/Moderate	4.233***	0.369
BSRIMasc	2.129***	0.202
BSRIFem	0.815	0.247
FemThreat	0.607	0.333
Constant	0.457	1.427
Nagelkerke R^2		0.332

*$p < 0.05$, ** < 0.01, *** $p < 0.001$

by roughly 15%. Identifying as politically conservative/moderate increased the likelihood of perpetration by over two and a half times ($OR = 2.706$, $p < 0.001$).

Focusing on the primary variables of interest, gender identity itself was not found to be significant, as the variable *Women* failed to meet statistical significance. Additionally, neither White racial identity (*White*), nor the interaction term (*Women*White*), significantly influenced embezzlement perpetration. Results did indicate that BSRI scores for masculinity significantly increased the likelihood of embezzlement perpetration ($OR = 1.283$ $p = 0.047$). For every one-point increase in masculine score, the likelihood of perpetration increases by 28%. Such findings support prior empirical literature which indicate that masculinity may influence crime perpetration (Klenowski et al., 2011; Messerschmidt, 1993). However, a respondent's femininity did not significantly impact the likelihood of embezzlement, nor did threats to masculinity or femininity.

Two further regression analyses were conducted on samples of participants split by reported gender identity. These analyses were conducted to delineate the impact of gender identity and gender identity threat on men and women's embezzlement perpetration. Table 4 presents the results from the logistic regression on women's embezzlement perpetration. Age was found to significantly decrease women's embezzlement perpetration ($OR = 0.918$, $p < 0.001$), such that for every one-point increase in age, the likelihood of offending decreased by about 8%. Education was found to be predictive of women's offending intentions ($OR = 1.204$, $p = 0.040$); for every one-point increase in education, women's likelihood of offending increased by about 20%. Additionally, identifying as politically conservative/moderate increased women's offending intentions by a factor of over four ($OR = 4.233$, $p < 0.001$). Threat*s* to women's gender identity was not found to have any significant impact on embezzlement perpetration indicating a lack of support for hypothesis three. That said, the BSRI's masculinity score was found to increase the likelihood of women's embezzlement perpetration ($OR = 2.129$, $p < 0.001$). For every one-point increase in masculine score, the log odds of offending increased by more than two times.

Table 5 presents the results for the regression model assessing men's perpetration of embezzlement. Like the results assessing women's perpetration, age was found

Table 5 Logistic regression model predicting men's embezzlement perpetration

Predictor	OR	SE(*b*)
Age	0.921***	0.019
SES	0.984	0.104
White	1.491	0.302
Education	1.126	0.068
Conservative/Moderate	2.117*	0.325
BSRIMasc	0.910	0.176
BSRIFem	1.974**	0.218
MascThreat	1.089	0.272
Constant	0.233	1.272
Nagelkerke R^2		0.201

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

to decrease the likelihood of offending ($OR = 0.921$, $p < 0.001$), such that for every one-point increase in age, the likelihood of offending decreased by about 8%. Identifying as politically conservative/moderate greatly increased offending intentions ($OR = 2.117$, $p = 0.021$) by a factor of over two times. Threats to men's gender identity were not found to exert a significant impact on perpetration likelihood, indicating a lack of support for hypothesis two. Although, men's scores on the BSRI feminine subscale were predictive of offending intentions ($OR = 1.974$, $p = 0.002$). For every one-point increase in a man's femininity score, offending likelihood increased by almost two times.

Discussion

This study furthered the gender socialization perspective in three crucial ways: 1) the focus on gender identity itself as opposed to examining differences between sex assigned at birth, 2) the assessment of whether threats to gender identity influence offending intentions, and 3) the assessment of intersectionality within WCC offending specifically through the focus on the intersection of gender/white racial identity. The findings of this study somewhat support the gender socialization perspective, although often not in the ways that we expected. These findings are highlighted below.

Hypothesis 1 posited that women would be less likely to engage in embezzlement in comparison to men. As indicated in Table 2, women were significantly less likely to engage in embezzlement in comparison to men in this sample (22% versus 35%). Such findings support the position that women's socialization leads to a lower likelihood of offending in cases of WCC (Klenowski et al., 2011; Piquero et al., 2013; Vieraitis et al., 2012). Should the opportunity perspective be the driving factor of women's WCC offending (Daly, 1989; Dodge, 2016, 2019), it would be expected that there would have been parity between men and women's offending intentions in this study, as all participants were placed in the same position within the corporation (i.e., middle-management). It is worth noting that all gender differences become

nonsignificant in regression models that control for other factors, implying that gender socialization itself might not be as important as differences in education, political ideology, or masculinity.

Gender identity threats did not appear to influence participants either. It was hypothesized, based off prior literature (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013), that men whose gender identity was threatened would be *more* likely to engage in embezzlement as a means of re-attaining their masculine identity (Hypothesis 2). Our analyses showed that this was not the case in this sample, which calls into question the influence of gender identity threat in WCC perpetration among men.

There was also no gender threat impact among the women in our sample, contradicting Hypothesis 3. Although contradictory to our expectations, this finding supports prior literature which has indicated that threats to gender identity often do not influence women's behavior or temporary acceptance of certain ideologies (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013).

Hypotheses four, five, and six focused on the interplay of gender identity with white racial identity. Based on recent theoretical developments (Sohoni & Rorie, 2019), it was expected in all cases that participants who identified as white would be *more* likely to engage in embezzlement in comparison to non-white participants and that white men would be the most likely gender/racial pairing to engage in WCC. As shown in Table 2, differences in the mean between white and non-white men and women were not statistically significant. Further, Table 3 indicated that the interaction term, *Women*White*, was not statistically significant, and the gender-specific regressions did not find white racial identity to be a significant influence of perpetration. That said, white men did report the highest level of offending intentions of all four gender/racial groups, which lends some credence to hypothesis 6. Therefore, it remains possible that white racial identity and privilege predominately influences *elite* corporate crime but may also influence white men's perpetration of lower-level WCC. Future research should explore the influence of white men's identity on both elite and lower-level forms of WCC to identify differential offending patterns.

Perhaps one of the most interesting findings involves the results regarding the BSRI scores. The full sample model indicated that masculinity, as measured through the BSRI's masculinity subscale, predicted an increase in the likelihood of offending. Such a finding seems to align with prior literature demonstrating that masculinity can be a driver of criminality (Messerschmidt, 1993, 2018). However, when examining the gender-specific models (Tables 4 and 5), our findings diverged from what previous research would have us expect. For *women*, masculinity was found to increase the likelihood of perpetration, while femininity was found to have a null effect. This perhaps indicates that, for women who embody a more masculine identity (where traits such as financial success and competitiveness may be more highly emphasized; Lindsay, 2011), crime becomes a more attractive means of "doing gender" (West & Zimmerman, 1987). These unexpected findings would align with the differential criminal thinking patterns as found by Benson and Harbinson (2020). In their study of convicted perpetrators of WCC, they found that women scored significantly higher in general criminal thinking than men did. While not tested within their data, it is possible that the women in their study embodied a more masculine

gender identity than would be traditionally expected of women in general. This corresponds to Dodge's (2016) and Adler's (1975) expectations that women will come to value masculine identity characteristics as they make more of a foothold in the labor market (see also, Galvin, 2020). Although, as shown in our study, threats to gender identity might not exert an influence on offending likelihood for women, overall criminal thinking patterns might coincide with women's ability to perpetrate occupational crime in masculine workspaces. Unfortunately, we are unable to determine whether masculinity plays a *causal* factor in offending or whether the willingness to offend might simply be correlated with other masculine characteristics among female respondents. It is also possible that women with masculine characteristics face stigma in their workplace that promotes offending (Dozier, 2017; we discuss this in more detail in the following paragraph as it relates to men).

For men, the results were inverse; masculinity did not predict offending while femininity increased the likelihood of offending. Although we are unable to test this in our data, we speculate that, perhaps, men who embody a more feminine set of gendered norms may feel increased stigma from society and within their workplace. Prior research has indicated that women experience stigma in the workplace if they present themselves in a masculine manner (Dozier, 2017), which may also hold true for men who embody femininity more heavily. Research has shown that gendered stigma in the workplace can lead to negative outcomes including lower motivation, negative job performance, and shorter organizational tenure (Van Laar et al., 2019). As prior research has established that men's gender identity might push them towards antisocial behaviors as a means of correcting masculine deficits (Messerschmidt, 1993), it is possible that men's embezzlement might be a function of an effort to prove their manhood or perhaps retaliate against their workplace that tolerates gender shaming. Although our measures of identity threat did not appear to influence offending directly, these results imply that the embodied gender identity of the participant in their everyday lives (and associated stigma) may lead to increases in offending. This possibility warrants more research.

Our findings regarding our conservative/moderate variables are particularly interesting. While this variable exerted a high increase in the likelihood of perpetration for both men and women, the increased effect of this variable was much higher for women than it was for men. These findings both support prior research about the political conservativism and perceptions of WCC (Holtfreter et al., 2008; Kroska et al., 2019; Lochner, 2004) and drive future need for research into political ideology and embezzlement perpetration. Ultimately, this data cannot provide answers as to why that differential effect of political ideology occurs, but the gendered nature of our findings highlights the need to further investigate perpetration at the intersection of gender and political ideology.

Limitations

This study includes a number of limitations which may have influenced the results. Likely the most impactful, the IRB board that approved this study mandated that each participant have the opportunity to re-assent to their participation in the study; in other words, participants were offered the opportunity to have their responses deleted prior to

any analyses. This opportunity was given to participants upon conclusion of the study as they were debriefed and informed of the manipulation of "threat." In total, 46 participants requested that their responses be removed. In line with IRB guidelines, these 46 participants had their responses deleted from the survey administration website and therefore were unable to be studied in any way (including for purposes of comparing them to individuals remaining in the data). While the impact of these removals on the final results is unknown, it is possible that these participants may have felt threatened from the experimental condition or reported a higher likelihood of perpetration.

Second, no influence was found regarding the experimental condition in either the sample of men or women. This is somewhat surprising, as a number of prior studies have shown the experimental condition to be highly successful in administering gender identity threat to both men and women (Harrison & Michelson, 2018; Munsch & Willer, 2012; Willer, 2005; Willer et al., 2013). These prior studies administered the experimental condition *in-person* where participants completed the BSRI and then handed their results to a research assistant, who then "coded" the scores and handed back either the experimental or control results. From there, participants were then asked to complete the remainder of the study. The key influence of the effectiveness of this methodology may come from the person-to-person interaction; a process which is nullified in an online environment like the one used here. As such, this study should be replicated using in-person administration in order to test the reliability of the experimental measure across samples.

Additionally, it is important to note that a vignette was used to present the offending context to the participants. While vignettes are useful in assessing offending intentions within populations, inherently they do not fully reflect real world situations and characteristics which may alter criminal offending (Eifler, 2010). This may be the case for this study. It is recommended that more advanced technology, including the use of video vignettes or virtual reality technologies, be used to greater replicate the "real world" environment in which offending may take place (Paschall et al., 2005; Van Gelder et al., 2016). The use of such technologies not only increases the replicability of actual offending environments, but also ensures that all participants are receiving the same stimuli during their participation.

Finally, some scholars have called into question the accuracy of the BSRI's ability to measure gender identities since its creation in the 1970s. Particularly, scholars have questioned whether the measure is able to account for changes in traditional gender norms over time (Donnelly & Twenge, 2017; Twenge, 1997). That said, the average scores for participants have remained relatively stable over the past few decades (Donnelly & Twenge, 2017) although women's femininity scores have declined over time.[2] This change over time may signify shifting perceptions in traditional gender norm acceptance (discussed further below). While other scales certainly exist that measure gender ideology, the BSRI remains a useful tool for studies such

[2] Bem's (1974) initial study of the measure on college students indicated that men scored 4.97 on the masculinity and 4.44 on femininity subscales. For women, these scores were 4.57 and 5.01, respectively. In the current study, men scored an average of 4.55 on masculinity and 4.24 for femininity. Women scored 4.26 in masculinity and 4.71 in femininity. Therefore, the averages between this sample and Bem's (1974) original study generally align.

as this one, as it incorporates scales for both masculinity and femininity which more clearly allows for the testing of gender identity as a spectrum, rather than a specific construct (Bridges, 2010; Bridges & Pascoe, 2014; Messner, 1993).

Future research

While this study added to the greater body of literature regarding the gender socialization perspective, it added even more questions regarding the ways in which social identity influences an individual's decisions to engage in WCC. The WCC field would greatly benefit from more work investigating how the intersections of an employee's identity characteristics influences their criminal offending. In particular, qualitative work using in-depth interviews or focus groups would be extremely beneficial in understanding how gender, race, and social class influence WCC offenders. Klenowski and colleague's (2011) study offers a glimpse at how gender norms and identity influence WCC offending, but much more can be done to better understand how these identity characteristics inform decision-making.

Additionally, much of the gender-focused criminological literature has assessed gender in a fairly black-and-white manner, assuming that men and women only embody masculinity or femininity, respectively. In reality, every individual "does their gender" in a way which draws from both masculine and feminine norms, leading to a gender identity which is on a spectrum rather than in a rigid and distinct binary (Bridges & Pascoe, 2014; Connell, 2010; Schilt & Westbrook, 2009; West & Zimmerman, 1987). Evidence of this is suggested by the findings of this study, where norms of masculinity and femininity influenced perpetration differently for men and women. Following the work of Steffensmeier and Allan (1996; see also Steffensmeier et al., 2013) on gendered "focal concerns", it is worth noting that the Bem Sex Role Inventory operates by asking respondents about their adherence to cultural norms surrounding masculinity and femininity. Here, our research may be demonstrating that gender categorization itself matters less for offending and, perhaps, that non-traditional outlooks more broadly (and expectedly) are related to offending intentions. For instance, women who adhere to more masculine ideologies might see embezzlement as a potential mechanism of monetary success. Given that "traditional gender norms" are increasingly opaque in modern society – and that it is sometimes unclear whether such traditional norms are criminogenic or protective overall (see Steffensmeier & Allan, 1996; Steffensmeier et al., 2013) – it may be that gender socialization itself is no longer a strong predictor of offending, but other personal characteristics and societal influences (such as stigma against non-conforming individuals in the workplace or overarching gender non-conforming personalities that wish to push back against institutions) have a stronger impact. Therefore, future WCC research would benefit by assessing the influence of gender outside of the traditional gender dichotomy as well as by generating and incorporating scales which measure the acceptance of both masculine and feminine norms. Such efforts would enable criminologists to assess whether "focal concerns" and gender socialization matter in the modern era or if methodological artifacts are concealing other, more relevant, predictors.

The need to extend WCC research outside of the traditional gender binary problematizes the gender socialization perspective. While prior research has provided partial

support for gender socialization (Klenowski et al., 2011; Piquero et al., 2013; Vieraitis et al., 2012; Zietz, 1981), the current tenets of the theory are rooted within a heteronormative lens that privileges cisgender, heterosexual men and women's adherence to and socialization of traditional gender norms. It is well established that gender, being a performative act (Butler, 1988, 2006; Connell, 2010; Schilt & Westbrook, 2009; West & Zimmerman, 1987), means that while an individual may be socialized into a specific set of gender norms (i.e., masculinity, femininity) they may not accept or perform behaviors in accordance with these norms. This is particularly true for gender non-binary or transgender individuals (Connell, 2010; Schilt & Westbrook, 2009) as well as sexual minorities (Kowalski & Scheitle, 2020; Woodruffe-Burton & Bairstow, 2013). We argue that future research using the gender socialization perspective should account for the intersection of the participant's gender and sexual identities to better understand the influence (or lack thereof) of gender socialization on WCC.

Conclusion

Within the growing body of WCC scholarship literature, the relationship between gender and low-level WCC perpetration remains highly debated. The current study indicates that gender socialization (and gender identity as a whole) is still a reasonable explanation for the perpetration of embezzlement, albeit in very unexpected ways. Criminology as a whole, and WCC scholarship, must do much more work emphasizing gender as a spectrum – rather than a rigid binary – if scholars are to better understand the intricacies of gender identity and criminal behavior.

Appendix A. Embezzlement vignette scenario

You hold a middle-management position within the Accounting Department at a Fortune 500 company.

In total, you oversee 20 employees in your department. Each of these employees has access to different financial accounts for the company. As a manager, you have access to all of the accounts handled by your employees. This access allows you to transfer company funds to accounts both within and outside of the company.

Your department handles the transaction of thousands of dollars on a daily basis, in which only a company audit would likely identify any improper transactions. Because of this, a small transaction of only a few thousand dollars would likely go unnoticed.

In terms of probabilities (from 0% = no chance at all to 110% = you would be certain to do this), how likely are you to transfer money to your personal account?

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Data availability The data for this study are unavailable due to IRB restrictions.

Declarations

Informed consent Informed consent was obtained from all participants with re-assent being obtained after completion of the study.

Conflicts of interest The authors note no conflicts of interest financially or otherwise with the current study.

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