

5-31-2018

The Influence of Information on Public Support for Solitary Confinement: A Test of Belief Updating and Confirmation Bias

Kayla J. LaBranche
Portland State University

Let us know how access to this document benefits you.

Follow this and additional works at: https://pdxscholar.library.pdx.edu/open_access_etds



Part of the [Criminology and Criminal Justice Commons](#)

Recommended Citation

LaBranche, Kayla J., "The Influence of Information on Public Support for Solitary Confinement: A Test of Belief Updating and Confirmation Bias" (2018). *Dissertations and Theses*. Paper 4483.

[10.15760/etd.6367](https://pdxscholar.library.pdx.edu/open_access_etds/10.15760/etd.6367)

This Thesis is brought to you for free and open access. It has been accepted for inclusion in Dissertations and Theses by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.

The Influence of Information on Public Support for Solitary Confinement:
A Test of Belief Updating and Confirmation Bias

by

Kayla J. LaBranche

A thesis submitted in partial fulfillment of the
requirements for the degree of

Master of Science
in
Criminology and Criminal Justice

Thesis Committee:
Ryan M. Labrecque, Chair
Kelsey Hendersen
Mauri Matsuda

Portland State University
2018

© 2018 Kayla J. LaBranche

Abstract

There is limited research measuring public opinion about the correctional practice of solitary confinement (SC). Given that public opinion can influence policies, it is important to determine whether or not one's beliefs can be updated upon receiving information about the use and effect of SC. Prior research indicates that public opinion is malleable, and thus, may be susceptible to modification. Though, people may be more willing to update their beliefs when the information they receive confirms their existing beliefs (i.e., confirmation bias). This study used an experimental design in which participants were asked to provide their opinions on a series of statements designed to measure their support for SC. Participants were randomly assigned to one of two treatment conditions that provided differing messages about the use of SC through brief, informational videos. Participants were either told that SC is a necessary tool to maintain order within prisons, or that SC is harmful to those who experience it. Following the intervention, participants' support for SC was re-measured and their change in score was calculated. Analyses indicated that participants who received information stating that SC is harmful decreased their support for the practice, while those who received information stating it was necessary increased their support for its use. To test for confirmation bias, participants were presented a survey instrument designed to measure their existing support for punishment. The findings indicate that participants had greater belief changes when presented with disconfirming information. These effects were more pronounced when examining moderating demographic variables. The research and policy implications of this study's findings are discussed.

Acknowledgements

I would like to first acknowledge the faculty in the Criminology and Criminal Justice department at Portland State University for their passion and encouragement. Without dedicated individuals to motivate and inspire students to become generators of knowledge, I would not have had the courage to conduct my own study. Without their guidance, I would not have possessed the valuable research, statistical and theoretical foundations necessary to complete this project. For these tools and encouragement, I am very grateful.

To my committee, Drs. Labrecque, Henderson, and Matsuda, I extend my sincerest thanks for your support and guidance with this project. Dr. Matsuda, thank you for helping me see the larger picture with this study. Your thoughtful comments allowed me to consider the impacts of my study in a larger scale. Dr. Henderson, your advice at the start of my study was invaluable. Your experience in experimental research greatly improved my project. To my chair, Dr. Ryan Labrecque, I extend my deepest thanks. Thank you so much for your advice and guidance over the last year. I have learned so much from you during this process, and I am very grateful.

During my time in graduate school, I gained a family. To this family I want to say thank you for keeping me focused on the end goal. I could not have come this far without you. A special thanks to Leah and Tanika, for all of the things you already know.

I would like to acknowledge my family and friends for their support and sacrifices throughout the last two years. You have been the biggest source of love and support, not

just during graduate school but throughout my life. I want to show a special thanks to my husband, Gary, and our two sons, Joshua and Jayden. Thank you for inspiring me to achieve more. I appreciate your encouragement, unwavering faith, and your personal sacrifices for me so that I had the ability to complete this program and this project. Gary, I could not have asked for a better partner. This project would have been impossible without you. To my boys, you are my ultimate inspiration. I love you all more than words and I am so grateful to have you.

Table of Contents

Abstract	i
Acknowledgements	ii
List of Tables	v
Introduction.....	1
Solitary Confinement in the U.S.	
Background	4
Historical Use and Purpose of SC.....	5
Solitary Confinement Debate.....	8
Research on the Effects of Confinement	10
Public Perception and Belief Updating.....	11
Current Study	16
Method	
Design and Sample	18
Procedure	19
Measures	21
Statistical Analyses	31
Results.....	32
Discussion	42
Limitations and future research	45
Conclusion	48
References.....	51
Appendices	
A. Survey Documents and Condition Video Transcripts	59
B. Human Subjects Approval	71

List of Tables

Table 1. <i>Demographic Characteristics</i>	27
Table 2. <i>Prevalence of Demographic Characteristics</i>	32
Table 3a. <i>Differences in pre and post intervention support for solitary confinement scores for SC is Necessary/not harmful Condition</i>	34
Table 3b. <i>Differences in pre and post intervention support for solitary confinement scores for SC is Not necessary/is harmfulCondition</i>	35
Table 4a. <i>One-way analysis of variance for the effect of punitive orientation in change in support for solitary confinement for SC is Necessary/not harmful condition</i>	38
Table 4b. <i>One-way analysis of variance for the effect of punitive orientation in change in support for solitary confinement for SC is Not necessary/is harmfulcondition</i>	39

Introduction

Solitary confinement (SC) refers to the isolation of an inmate in a single cell for 20 or more hours per day (Cochran, Toman, Mears, & Bales, 2018). Other terms are also used to refer to the practice of SC, including administrative segregation, restrictive housing, and supermax custody (Mears, 2016). One's ability to interact with correctional staff and other people is limited in SC, and access to programs and other services is also restricted.

The practice of SC has become the center of a debate about its efficacy, use and effects. Many corrections administrators support the use of SC because they believe it is a necessary tool to ensure safety within prisons (see Mears & Castro, 2006). Critics of this practice, however, maintain that its use is a cruel and unusual punishment, primarily because of the belief that it causes serious psychological damage (Kelsall, 2014; Kupers, 2008). The research on the effects of SC is limited, but what is available suggests that the use of the practice can contribute to negative psychological outcomes, and it does not appear to be an effective deterrent to control unwanted inmate behavior as proponents have claimed (see Steiner & Cain, 2016).

Despite its recent media attention, public perception on the use and effect of SC remains largely unknown (see, however, Mears, Mancini, Beaver, & Gertz, 2013). It is important to monitor public opinion because these views have the ability to affect policy in meaningful ways. This is, in part, because public perception is malleable and can be shaped by both direct and indirect experiences (e.g., through the media; see Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005). Following tragedy, or an increase in fear of

crime, the public may call for harsher penalties for criminal acts because they may believe that the existing punishments are not severe enough to prevent crime. Similar public outcry has occurred following instances of the police using excessive force to detain citizens; the public demands the police are held accountable. When the community calls for action, policymakers tend to bend to the will of their constituents (Frost, 2010). Public perception of prison life may also contribute to lengthier sentencing practices and harsher treatment of inmates within the walls of correctional facilities, potentially reducing opportunities for meaningful opportunities for rehabilitation (see Wozniak, 2017). Given the influence the public has on policymakers, it seems reasonable to assume that public opinion may also influence the use of SC.

The objective of this study is to assess if public perception about SC can be altered upon receiving conflicting messages about its use and impact on behavioral outcomes (e.g., misconduct, recidivism) and its effect on inmate mental health. Social science research suggests beliefs that are deeply rooted in morality may be difficult to modify (see Horne, Powell, & Hummel, 2015). In general, when presented with information that conflicts with one's existing beliefs, people may be unwilling to revise their beliefs, instead, distorting the information to confirm their existing beliefs. This research also suggests people are more likely to update their beliefs when the information aligns with their pre-existing opinions or is socially acceptable (see Krumpal, 2013; Tappin, van der Leer, & McKay, 2017). I empirically test this theory by randomly assigning 500 participants to receive information to support either the proponent (e.g., SC is a necessary tool for inmate management) or critical (e.g., SC is harmful to those who experience it) positions of SC to evaluate if their perceptions change following exposure

to these messages and whether the message of the information received aligns with their current support for punishment. The research and policy implications of this study's findings are discussed.

Solitary Confinement in the U.S.

Background

On any given day, there are approximately 1.5 million adults incarcerated in prisons within the U.S. (Kaeble & Glaze, 2016), with more than 66,000 (or 4.4%) of this population are held in an SC setting (see Beck, 2015). Inmates in SC are often confined to their cells for 20 or more hours per day and have limited access to the programs and services that those in the general population receive (see Cochran et al., 2018). Their human interaction is often limited to brief encounters with institutional staff, as they are isolated from other inmates and visitations with family may be restricted (Butler, Griffin, & Johnson, 2012). Inmates in SC settings are often shackled with hand, and sometimes leg, restraints when they are being moved from their cell for showers, exercise, or other necessary locations throughout the prisons (Arrigo & Bullock, 2008).

There are three subtypes of restrictive housing for managing problematic or vulnerable offenders: disciplinary segregation (e.g., used for rule or conduct violations), administrative segregation (e.g., used for discipline or non-punitive sanctions such as death row inmates), and protective custody (e.g., used for inmate protection; Frost & Montiero, 2016). The lengths of time inmates are confined vary significantly depending on the type of segregation and the institution they are housed in. The rules and policies in place that dictate the maximum amount of time a person can be held varies by state; the length of time a person can be held is often at the discretion of the corrections administrators and can last for days, weeks, months, or even years (Bennion, 2015). Despite variation in the purpose for the use of SC, those who placed in restrictive housing will have largely the same experience (Kurki & Morris, 2001).

Historical Use and Purpose of SC

In the nineteenth century, two prison models emerged in the United States as a means to reform those who disobeyed the law. The Pennsylvania system relied on complete isolation, while the Auburn system was known for its enforcement of silence and use of congregate inmate labor (Arrigo & Bullock, 2008; Reiter, 2012). The first American penitentiaries using the Pennsylvania system were created by the Quakers and were designed to encourage repentance (Vasiliades, 2005). These penitentiaries relied on SC as the primary tool to rehabilitate prisoners. The Pennsylvania system relied on SC because prior attempts at housing criminals with other criminals was not effective (see Cullen & Gilbert, 1982). It was thought that “criminal behavior was infectious, much like a disease,” and isolating the prisoner from the outside world and other prisoners would ensure that the “disease” did not spread to others. This would allow time for reflection and allow prisoners to understand the harm of their behavior (Shalev, 2011, p. 152). During isolation, prisoners were assigned labor tasks, were allowed to read the Bible, and it was assumed that eventually, they would become reformed, law-abiding citizens (Reiter, 2012; Shalev, 2011).

In 1890, the U.S. Supreme Court acknowledged the potential harm of isolation, suggesting that those who were able to survive confinement would never be of fit mental capacity to reintegrate back into the community (see Appelbaum, 2015; Arrigo & Bullock, 2008). The practice was used less frequently after it became apparent that the act of leaving prisoners in total isolation was contributing to severe psychological harm (i.e., inability to function, suicide, psychosis), and it was not found to be any more effective at

controlling inmate behavior than other forms of punishment (Reiter, 2012; Shalev, 2011). Further, as prison populations increased, it became more difficult to ensure total isolation. The congregate model used by the Auburn system was found to be more cost effective and more conducive for producing goods (Cullen & Gilbert, 1982). Though SC lost the widespread acceptance and application that it once had, the practice was reserved for those who violated the rules within prisons. This practice has continued to be part of our penal system since its origin, though there have been fluctuations in its use and debate about its efficacy (Reiter, 2012).

In the 1970s, the idea that prisoners could be rehabilitated was no longer widely supported publicly. Some of this perception shift stemmed from a report authored by Robert Martinson (1974), following the analyses of more than 200 rehabilitation programs, in which he stated that these programs did little to curb recidivism. This left many lawmakers, even those who were proponents of rehabilitation, with the belief that “nothing works” to reform prisoners, leading many to abandon the idea of rehabilitation (Cullen & Gilbert, 1982). After rehabilitation fell out of favor, it was thought that choosing to incarcerate those who commit crimes was necessary to reduce or prevent crime (Cullen & Gilbert, 1982). Since the goal of prisons shifted from rehabilitation to incarceration, the number of individuals housed in prisons increased in large numbers. These changes have transformed the prison landscape through longer sentences and mandatory minimums for certain crimes. With a sudden influx in offenders, the goal of SC transformed from rehabilitation, to a tool that was used to control the increased number of who posed difficulties for correctional staff to manage (Vasiliades, 2005). The belief that “nothing works” continued through the 1980s and into the 1990s. This idea

that nothing could reform prisoners launched the concept of the “supermax” facility, or prisons that were designed to house all of its occupants in SC for an indefinite period of time (Haney, 2003). The first facility opened in Arizona in 1986, and over the course of two decades, these facilities would expand to nearly every state (Reiter, 2013).

In recent years, SC has gained attention from the media and lawmakers. In 2013, prisoners attempting to reform the indefinite SC practices within California’s Pelican Bay prison went on a hunger strike that lasted sixty days (see Bennion, 2015). The goal of the strike was to highlight the administrators’ indefinite use of SC for gang-affiliated inmates, because the prisoners viewed it as torture, and to have the prison change its practices. Following the hunger strike in Pelican Bay, some states started reducing the use of SC (see Bennion, 2015). A few years later, the media spread the story of Kalief Browder, a young man held in SC at Rikers Island awaiting trial for two years when he was just 15 years old. His charges were eventually dismissed, but critics of SC claim that the treatment he received within Rikers caused serious psychological harm, and some claim the lengthy stint in SC, and the abuse he received in Riker’s, was the cause of his eventual suicide at age 22 (Fettig, 2017). The widespread coverage of his death caught the attention of lawmakers, with Justice Kennedy denouncing the effects of SC for its ability to bring people to “the edge of madness” (*Davis v. Ayala*, 2015). Even President Obama (2016) spoke out about the potential for harm using SC, decrying its use for juveniles and placing limits on its use for low-level rule violators housed in federal prisons. Obama expressed concern about isolation preventing those who are held in SC from returning to society as “whole people,” and said that confinement does not make us (communities) safer. This recent widespread, negative coverage of SC has only

contributed to the debate on whether or not this practice is beneficial in maintaining order within prisons or if the practice should be abolished because of the potential for harms it causes.

Solitary Confinement Debate

Solitary Confinement is Necessary.

Those who support the use of SC argue that it is necessary and serves a legitimate purpose within facilities because it accomplishes several important goals within prisons. It has the ability to increase the safety of correctional facilities, and safety is the most widely cited reason for its use (see Mears & Watson, 2006). Corrections administrators argue that inmates are placed in SC as a management tool, when necessary, to maintain the order of the facility and control of the inmates (Mears, 2016). They argue that there are fewer rule violations and infractions, greater compliance with rules and routines, and fewer instances of use of force (Mears & Watson, 2006).

A related goal of SC is to address unwanted behavior in inmates. Proponents of SC believe that in order to remove the violent and disruptive behavior of inmates, they should be punished for rule violations, so they learn there are unpleasant consequences for their behavior by having their freedom further restricted (see Appelbaum, 2015).

Those who advocate for the use of SC view segregation as a specific deterrent of unwanted behavior for individuals who experience it because those who experience it would want to avoid returning to SC because the experience is unpleasant. They believe that the use of SC may also act as a general deterrent to prevent the rest of the prison population from committing similar acts to avoid similar undesirable punishments (Morris, 2016). Proponents argue SC can prevent inmates from engaging in violent or

unwanted behavior or inciting others to engage in this type of behavior by removing the opportunity to violate institutional rules by confining them to a cell (incapacitation; Mears, 2008; Shavell, 2015).

The ability to isolate specific populations of inmates helps maintain order within prison. It is argued that in many cases, segregation is reserved for only the “worst of the worst;” those who are dangerous and violent and cannot be left in the general population of the prison (see Kurki & Morris, 2001; Mears et al., 2013). These inmates are left unable engage in conduct that could be injurious to staff or other inmates because they have been incapacitated (Frost & Montiero, 2016). For some inmates, prison would be even more dangerous without the ability to use segregation. Protective custody often requires that vulnerable or at-risk inmates (e.g., those who are suffering from mental illness, those who are gay/bisexual/transgendered, or because of the crime they committed) are separated from the general prison population, and at times this means they are placed into SC to ensure their safety (Appelbaum, 2015).

Solitary Confinement is Harmful.

Critics of SC argue that it produces serious psychological effects including depression, anxiety, and increased risk for self-harm (see Frost & Montiero, 2016). One study found an increase in Post-Traumatic Stress Disorder symptoms in a sample of recently released inmates who had experienced SC during their incarceration (Hagan et al., 2017). These effects could be magnified among inmates who already suffer from mental illness (Arrigo & Bullock, 2008). Opponents of SC further contend that the continued use of this practice, because of the potential for harm, should be considered a form of torture, which violates the inmates’ constitutional protections against cruel and

unusual punishment (Kelsall, 2014). Further, some point to research indicating that meaningful human interaction and opportunities for sensory stimulation are basic human necessities and the act of depriving a person of those fundamental rights is a direct violation of those constitutional protections (Bennion, 2015). Following long-term isolation from all social interactions, inmates may become intolerant, or even fearful of contact with others in the future (Arrigo & Bullock, 2008). This could contribute to future issues reintegrating back into the general population or the community.

Research on the Effects of Confinement

There is a notable lack of empirical research on the effects of SC (Mears, 2016). Much of the existing research is focused on how the use of SC affects the mental health of the inmates. There is research that suggests that SC causes serious psychological harm, but most of these studies are qualitative (Bennion, 2015; Cockrell, 2013; Grassian & Friedman, 1986; Vasiliades, 2005). These authors posit that in its current form, SC is both physically and emotionally harmful due to sensory deprivation, and as it is currently being used, does not provide opportunity for meaningful change to occur (Bennion, 2015; Cockrell, 2013). Quantitative investigations examining the psychological effects of SC are much less common. In two meta-analytic reviews, the current body of research indicates that when used humanely, SC does not appear to produce the severe, widespread effects that its critics discuss. In many instances, it is likely that these effects are not significantly different from what an inmate would experience simply being incarcerated, though this may not be the case for all inmates (Morgan et al., 2016).

Recent empirical investigations also indicate that SC does not act as a control to prevent future unwanted behavior, as proponents of SC claim (Morris, 2016). This may

be in part because those who are the highest risk for violent and disruptive behavior may not be affected by the threat of severe sanctions, and thus, the use of SC has no deterrent effect (Mears, 2008). Solitary confinement may even have the inverse effect with studies indicating that those who spent time in SC may be more aggressive, have higher rates of misconduct, and once released from prison, may be more likely to reoffend than those who were not in SC (Steiner & Cain, 2016). Proponents of SC suggest that SC is reserved for the “worst of the worst,” but others suggest that those who are housed in SC do not always have severe behavioral issues. Arrigo and Bullock (2008) suggest that correctional staff believing that those housed in SC are the “worst” may create an “us against them” mentality with staff. Many of the inmates who are placed in segregation are there because of non-violent disciplinary infractions, they were identified as a possible gang (or other threat group) member, or they were involved in an altercation within the prison (Arrigo & Bullock, 2008). There is not a large body of research that addresses the effects of SC on subgroups, or the effects of SC on behavior in general, but this may be in part because much of what happens in prisons is outside of the public eye. Given the regenerated interest in SC in recent years, it is likely this body of research will increase in the future.

Public Perception and Belief Updating

Public Perception.

Many scholars agree that there is a relationship between the attitude of the public and policy. Some argue that as the public’s fear of crime increases, for example, they are more likely to demand action from policymakers to keep society safe (Frost, 2010). One such citizen led initiative is Oregon’s Ballot Measure 11; passed in 1994, this measure

ensures people who are convicted of specific (primarily violent) offenses must serve mandatory minimum sentences (Merritt, Fain, & Turner, 2006). Similarly, in the aftermath of the abduction, rape and murder of a young girl, Florida citizens demanded more severe penalties for child sex offenders. The Jessica Lunsford Act (a.k.a., Jessica's Law) was signed into law in 2005, and carries a mandatory minimum sentence of 25 years to life for sexual crimes committed against children (Dierenfeldt & Carson, 2017). It is clear public opinion regarding criminal justice policies is important to monitor because their attitudes have the ability to shape public policy. It also seems reasonable to expect public opinion may shape the use of SC, but the question remains, *can public support for SC be altered by providing contrasting information regarding its use?*

Research that attempts to measure public opinion about what should happen to those who commit crime after the trial phase is over is limited. The research that does exist suggests that the public has the misperception that prison life is both unpleasant but could be even harsher than it is now (Wozniak, 2014). Some scholars argue that this misperception from the public has led policymakers to increase sentence lengths in response to citizen demand (Wozniak, 2016). Wozniak (2017) found that those who do not believe that prison life is harsh enough for the incarcerated are also more likely to support more severe sanctions such as capital punishment and are less likely to support less severe alternatives, such as life in prison without the possibility of parole.

A recent public opinion poll on SC indicates there is some support for this practice (Mears et al., 2013). Respondents were found to be more likely to support the use of SC when these sanctions were used towards those whom they believed were threats to society, and when the respondents believed that the inmate (not society) was

solely responsible for his or her actions. Older, white, conservative men were more likely to support the use of SC even when it did not have any crime reducing benefits. The perceptions found by Mears and colleagues indicates that the public does support the use of SC in some instances, but it is unclear if the public is knowledgeable about its use and effects.

Belief Updating.

Psychology research indicates that public perception is malleable (Aly & Turke-Browne, in press; Kearns, 2015). Studies attempting to sway participants' perception of capital punishment, for example, found that educating participants on the risks of executing innocent people, the views of similarly developed countries on its use, and also the lack of deterrent effect on the remainder of the population was enough to cause some participants to change their stance on this particular strategy (see Lambert, Camp, Clarke, & Jiang, 2011; and LaChappelle, 2014). It is unknown if providing information about opposing positions of confinement is sufficient to facilitate a change in opinion about its use.

Though perception may be malleable, some research suggests that for beliefs that are rooted deeply in morality, belief revision may become more difficult. Moral beliefs are constructed largely through socialization, rooted in emotion, and though resistant to frequent change, will evolve throughout the lifespan (Horne et al., 2015). Decisions made to punish wrongdoers in society are largely issues of morality, driven mostly through societal norms of what is appropriate and what is not. One aspect to consider is how the cultural policy mood has shifted since the "nothing works" era. Some research has shown that the U.S. has taken a more progressive stance on many social issues that are rooted in

morality (i.e., homosexuality, divorce, and drug use), but there are some issues that are deeply rooted within morality that they do not follow this trend such as abortion and capital punishment (see Mulligan, Grant, & Bennett, 2013).

Confirmation bias might make belief revision even more difficult. This concept suggests that when people are presented with information that contradicts their existing beliefs, they will either disregard the information or distort it until it confirms their existing belief (Horne et al., 2015). This does not suggest that people will never change their perceptions when presented with conflicting information, but for beliefs that are deeply rooted in emotion, such as moral beliefs, revision may require much more evidence than what would normally be warranted (Horne et al., 2015). Research has shown that when confronted with a moral dilemma, that is two conflicting moral beliefs, participants were able to change their beliefs when it had a utilitarian purpose (Horne et al., 2015). This could be an indicator that the public may base its support for SC on what they believe will be the best solution for the most people.

Research also suggests that people may be more likely to update their beliefs based on what they perceive is the most desirable outcome and what they feel is socially acceptable (Krumpal, 2013; Tappin et al., 2017). In a test to determine if political beliefs were susceptible to desirability bias, participants were provided information which either confirmed or refuted their original beliefs. Participants who received information that matched their desired outcome were more likely to update their beliefs based on their pre-existing biases (Tappin et al., 2017). Belief updating in this sense, operates similarly to those who are faced with information that confirms their original beliefs. Additional research suggests that people may update their beliefs based on what they believe is

socially acceptable (see Krumpal, 2013). Decisions to support SC may be based a person's perceived social acceptance of its use. Those who are likely to believe that the majority of Americans support its use may be more likely to support it as a means to conform to social norms.

Other research has attempted to determine if pre-existing perceptions of a practice could affect their willingness to update their beliefs about its use. A study was conducted to determine how people's perception of torture affected their willingness to update their support for the practice. Participants were shown media that suggested torture was either effective, ineffective, or were not given any representation of torture (control). The study found that when participants were shown conditions suggesting torture was effective they were more likely to increase their support for the practice, even going so far as to sign a petition to Congress for its use (Kearns & Young, 2017). An interesting finding of this study was even those who did not believe torture was effective were also more likely to sign a petition on torture if they were exposed to the "effective" torture condition. The authors suggest that these findings may indicate that people who are primed on a topic, in this instance torture, may be more inclined to believe that the practice is effective (Kearns & Young, 2017). This finding suggests that although a person's existing beliefs about a practice are important, it is still possible for this position to be altered following exposure to contradictory information.

When considering belief updating, one must also consider the possibility that people will not update their beliefs, despite any information shown. Prior research has shown that when attempting to sway established opinions, even if the opinion is based on false information, it is possible that these beliefs will be retained (i.e., belief

perseverance; Cobb, Nyhan, & Reifler, 2012). There is a body of research that suggests that citizens are misinformed on policy, and even when faced with accurate facts, people may be unwilling to change their perceptions (Cobb et al., 2012). It would be reasonable to assume that SC may be one of these issues that people are under or misinformed on given that it occurs so far outside the public eye. This could mean, however, that if participants' opinions about SC are well established, they may be unwilling to change their perception on its use.

Current Study

Given the relationship between public perception and policy creation, it is important to evaluate if perceptions related to punishment can be changed. The primary objective of this study is to assess if participants update their opinions of SC after receiving information depicting two opposing positions on its use and effects. Only one study has sought to evaluate public perception of SC (Mears et al., 2013), and very few studies have been conducted to measure public opinion related to conditions of confinement after sentencing. If information can be used to change perceptions about SC, it is likely that information could be used to change perceptions about other correctional practices and policies. This could be used to create an educational initiative to sway public perception towards supporting evidence-based correctional practices.

The secondary objective is to evaluate the role of participants' pre-existing opinions, and whether or not participants update their beliefs when the information received aligns with their prior opinions. It is important to determine whether people will retain their existing beliefs when faced with contradictory information because if beliefs

about punishment are unwilling to be changed, it is not likely that any attempts to sway their perceptions would be successful.

There is a need for more research on public perceptions of SC policies. This study aims to provide an empirical assessment of public support for the use of SC and to develop a deeper understanding of how beliefs about this practice may be updated. In doing so, this study addresses three fundamental research questions:

RQ₁: Can receiving information about SC cause a person to update his or her beliefs about its use?

RQ₂: Does one's belief in punishment affect whether or not he or she will update his or her beliefs about the use of SC?

RQ₃: Do demographic characteristics influence whether individuals will update their beliefs about SC?

Method

Design

This study used a two by three analytical design in which participants were randomly assigned to one of two treatment conditions. Participants were then divided into three groups based on their initial support for the use of punishment (i.e., low punitive, moderate punitive, and high punitive). The punitive orientation was used to determine the role of confirmation bias in belief updating. Participants were presented information (either the condition SC is necessary/not harmful or SC is not necessary/is harmful) that may confirm or refute their existing beliefs depending on their initial group assignment.

Sample

The sample for this study was recruited from Amazon's Mechanical Turk (MTurk) workplace. MTurk is an online crowdsourcing space that allows for the recruitment of workers to complete various tasks, such as online surveys and document transcription (Ross, Irani, Silberman, Zaldivar & Tomlinson, 2010). Prior survey research suggests that participants recruited from MTurk are younger, more educated than the general population, and many have middle class incomes (Ross et al., 2010). In regard to performance, MTurk samples have been shown to pay more attention to survey instructions than college student samples (Hauser & Schwarz, 2015). Participants recruited using crowdsourcing sites are more representative of the U.S. population than are university convenience samples (Berinsky, Huber & Lenz, 2012). Using crowdsourcing sites to recruit participants has raised some concerns about validity. Berinsky and colleagues (2012), suggested that using crowdsourcing may threaten internal validity because of the potential for participants to respond to the survey protocol

more than once and determining whether participants paid adequate attention to the experimental conditions. To ensure that participants were unable to violate their treatment assignment, they were restricted to participation only once, and to ensure their attentiveness throughout the protocol, various attention check and manipulation check questions were embedded within the survey.

Eligible participants in this study were limited to people who were 18 or older, who live within the U.S. A total of 563 participants responded to the MTurk task. Participants were excluded automatically by the survey tool, Qualtrics, for failing to correctly respond to attention check questions. A total of 63 participants were rejected based on this criterion. A total of 14 participants did not complete all parts of the survey and would have been excluded from the study due to missing data. To compensate for this, the means for the missing data were imputed into the sample. Tests were conducted to determine if there was a difference in the results using the sample with imputed means in comparison to the original sample which excluded these 14 participants. There was no difference in the results, and therefore, these participants were included in the final sample. The final sample for this study is 500 participants.

Procedure

The online survey was broken up into six sections (see Appendix A). The first four sections were identical for all participants. The first section gathered basic demographic information including, race, gender and political affiliation. The questions for this section of the survey were adapted from Applegate's (1997) survey of perceptions of crime policies of residents of Ohio. Next, participants completed the Vengeance Scale in the second section (Stuckless & Goranson, 1992), which evaluates

perceptions towards empathy and desire for retaliation. The third section asked participants to provide their opinion on several statements about how inmates should be treated within the prison setting. Participants were scored based on their responses to these statements and this score was used as a baseline measurement of their support for confinement.

The fourth section of the survey randomly sorted participants into one of two conditions. Participants viewed a short video in which information was presented that either supported the position that SC is necessary and not harmful or the position that SC is not necessary and is harmful. Prior to the video, a definition of SC was shown to ensure all participants viewed the content with the same understanding of the practice. The videos contained recorded footage of a confinement cell or various situations that may occur within prisons. Each had a text overlay with information which suggested one of two scenarios, that SC is necessary/not harmful or SC is not necessary/is harmful(see Appendix A for full transcript of the two condition videos).

A series of manipulation check questions were included to ensure that the video was viewed. The statements asked participants to identify key elements of the video, such as the primary message presented, and indicate their overall agreement with this message. Additional manipulation check statements were included to ensure that participants were not excluded based on one mistaken answer. These were displayed after the video had finished. Attention check questions were also embedded throughout the survey to ensure the accuracy of the participants' responses.

The fifth section of the survey consisted of a filler task designed to increase the time between baseline support for SC measurement and the post-test following the video

manipulation. The purpose of this task was to try to reduce the likelihood that participants could easily recall their initial responses on the first presentation of the support for SC statements. Participants were asked to assign a rating to three photos that represent the conditions of confinement. They were asked to rate whether the conditions were too harsh, too comfortable, or about right. The results of this section were not included in the final analyses of the data

The final section of the survey was used to re-score the participants' support for the use of SC. This section was a second presentation of the statements that participants responded to in section three. The statements were presented to participants in a random order to lessen the possibility that participants remembered their response to the baseline statements. Participants were thanked for completing the survey and compensated \$2.50 to the Amazon payment method of their choosing.

Prior to conducting the study, approval was received from the Portland State University Human Subjects Research and Review Committee. The approval letter for this protocol (#174439) and the application can be found in Appendix B.

Measures

Dependent variable.

Participants were asked to provide their opinion on a series of 20 statements to determine how much they support the use of SC. Statements consisted of items such as, "Placing disruptive inmates in solitary confinement is the only way to stop them from engaging in more acts of violence and breaking the rules," and "The best way to prevent violence within prisons is to use education to give the inmates something productive to do; it reduces available down time" (see full list of statements in Appendix C).

Participants were asked to rank their agreement on a sliding scale from zero to 100, with higher values indicating stronger support for the practice of SC. Positive responses to statements which indicate a lack of support for this practice were reverse coded. These values were summed to create a support score. Scores were transformed so the total score would range from zero (less support for SC) to 100 (more support for SC). Prior to analyses of the data, the scale used to assess support for SC was measured for reliability (Cronbach's $\alpha = .93$). This variable was operationalized in two ways. It was used as the raw support score to address RQ₁ to determine if there was change within subjects from the baseline measurement of support for SC to the post-intervention measurement. The difference between the two scores was calculated and used to address RQ₂ and RQ₃.

Independent variables.

In order to assess one's punitive orientation, participants completed the 20 item Vengeance Scale (Stuckless & Goranson, 1992). The scale is designed to measure the level of support participants have for vengeance and empathy. Vengeance is one aspect of retribution, a correctional philosophy in which people believe that those who commit criminal acts deserve a punishment that inflicts harm upon them as reparation for the harms they have caused (Cullen, Fisher, & Applegate, 2000). The scale asked raters to give their opinion on a series of statements such as, "I don't just get mad, I get even," and "Revenge is morally wrong." Items were ranked on a 7-point Likert-type scale ranging from "Strongly Disagree" to "Strongly Agree". Responses to these questions were given a numerical value based on the level of agreement assigned to the statement by the participant, with higher values indicating stronger support for vengeance. Positive responses to statements which indicated support for empathy, were reverse coded. Scores

for participants ranged from 0 (i.e., extremely empathetic) to 140 (i.e., extremely vengeful).

The mean vengeance scale score for the sample was 46.6. The sample was trichotomized into three groups using participants' score from this scale (i.e., 0 = low punitive, 1 = moderate punitive, 2 = high punitive). Those whose scores were between 0 and 29 were considered to be low punitive ($n = 169$). Those with scores between 30 and 56 were considered to be moderately punitive ($n = 160$). Those with scores higher than 56 were considered to be high punitive ($n = 171$). Separate analyses were run on the sample with punitive orientation dichotomized into only low and high categories, and the results were similar to what is presented here.

Treatment conditions.

In the survey, participants were randomly assigned to one of two treatment conditions (SC is necessary/not harmful or SC is not necessary/is harmful). The sample was divided equally with 250 participants in each condition. The first condition suggests that SC is necessary and justified because inmates are violent and continue to break laws. Those who are placed in restrictive housing are a threat to the safety of the staff and other inmates, and SC is one of the few tools available to control the behavior of inmates. The second condition presents the argument that SC is harmful to those who are placed in it and it should not be used. Those who are isolated will experience severe psychological trauma and have an increased risk for long term mental health issues.

Pilot test of treatment conditions.

Prior to the present study, a separate sample of 41 participants was recruited from MTurk to assess if the videos portraying the differing views of the use of SC were

successful in conveying their individual messages to the viewers. Each participant was randomly assigned to view either a video that would align more closely with those who support the use of SC, or a video that would align more with those who believe that the use of SC is harmful to those who are exposed to it.

In this pilot investigation, Qualtrics, randomly assigned 20 participants to the SC is necessary and not harmful condition and 21 participants to the SC is not necessary and is harmful condition. In each condition, participants were asked to view a three-minute video. The first was designed to portray the position of SC proponents, which suggests that SC is a necessary inmate management tool. The second video was designed to deliver the position of SC opponents, which suggests that the practice is harmful to those who experience it. Following each of the videos, participants were directed to use the content of the video they were assigned to answer questions about the message they were presented (see Appendix A for full transcript of these videos).

Using the content of the SC is necessary/not harmful video, participants were asked if they believed the video delivered the message that confinement was necessary. The majority of participants (95%) agreed, based on the content of the video, confinement is a necessary function within U.S. prison systems. When asked to identify some other key components of the video, the majority of participants (90%) indicated that without SC prison would be more dangerous or chaotic, and that prison officials need confinement because of violent inmates. Eighty-five percent of participants were able to identify this as the primary message of the video. When asked what the largest source of

harm was within prisons, 95% indicated that violent inmates or gang members were the most harmful.

The questions following the video for the second condition, SC is not necessary/is harmful, asked participants to identify the primary message of the video, and if the video was able to convey the message that SC is a harmful practice. Each of the participants assigned to this condition agreed that SC is harmful. The majority of participants (95%) identified this position as the primary message of the video content, while also indicating that SC contributes to mental health issues.

The results of the pilot test indicated that these videos portrayed the appropriate message for each of the conflicting positions on the use of SC presented in this paper. The results indicated that the study could proceed using these videos without modification.

Participants in the full study were asked the same questions to ensure they were able to accurately identify content presented in the video they were assigned. The results were similar to that of the pilot study. The majority of the participants were able to identify the content of the video they were presented (98% in SC is necessary/not harmful, 100% in SC is not necessary/is harmful). After watching the SC is necessary/not harmful video, participants were asked if they thought SC was necessary. The majority of participants indicated that SC was necessary (93.6%). Similar results were found when those in the SC is not necessary/is harmful condition were asked if they believed it was harmful; the majority of participants (98.8%) agreed that it was harmful to inmates exposed to it.

Demographic characteristics.

Participants were asked to provide information on factors that research suggests affects perceptions of punishment such as age, race, sex, political ideology, religious preferences, level of education, and gross family income. Table 1 provides a full summary of these variables.

Table 1
Demographic Characteristics of Participants (N = 500)

Characteristic	<i>n</i>	%
Age at Survey (years) ^a		
18-24	33	6.7
25-34	181	36.6
35-44	152	30.8
45-54	65	13.2
55+	63	12.8
Gender ^b		
Female	261	52.5
Male	236	47.5
Race/Ethnicity ^c		
White	372	75.0
Black/African American	48	9.7
Hispanic	22	4.4
Asian	37	5.2
Bi/Multiracial	15	3.0
Native American	2	0.4
Region ^d		
Northeast	111	22.3
South	179	36.0
Midwest	95	19.1
West	112	22.5
Highest Educational Attainment		
High School Diploma or Less	75	15.0
Some College	181	36.2
Graduated Four Year College	184	36.8
One or More Years of Graduate School	60	12.0
Political Ideology ^e		
Mean Political Ideology (Continuous Scale)	4.3	2.3
More Liberal	263	52.8
More Conservative	235	47.2

Table 1 (cont.)***Demographic Characteristics of Participants (N = 500)***

Characteristic	<i>n</i>	%
Gross Family Income (Prior Year) ^f		
Less than \$15,000	34	6.8
\$15,000 to 24,999	64	12.8
\$25,000 to 34,999	79	15.8
\$35,000 to 49,000	93	18.6
\$50,000 to 74,999	122	24.5
\$75,000 to 99,999	55	11.0
\$100,000 to 149,999	36	7.2
\$150,000 or more	16	3.2
Religious Preference ^g		
Not Religious	243	48.8
Christian Affiliation	214	43.0
Spiritual	17	3.4
Jewish	10	2.0
Islamic	5	1.0
Buddhist	6	1.2
Other	3	0.6
Mean Vengeance Scale Score	46.6	29.6
Low Punitive Orientation	169	33.8
Moderate Punitive Orientation	160	32.0
High Punitive Orientation	171	34.2
Solitary Confinement Support Score		
Time 1	36.6	16.9
Time 2	35.5	18.7

^a *n* = 494 ^b *n* = 497 ^c *n* = 496 ^d *n* = 497 ^e *n* = 498 ^f *n* = 499 ^g *n* = 498

Age was estimated using the participants' year of birth at the time of the survey. The participants in the sample ranged in age from 19 to 74. The average age was 38.4. The median of the sample was used to dichotomize this variable for comparison and participants were divided into either 35 and under (0) or 36 and over (1).

Participants were asked to self-identify their sex using a write in option on the survey. The participants primarily provided a response indicating their gender, so the variable was changed to gender to match their responses. None of the participants indicated a non-binary gender, so the variable was left dichotomous (1 = male, 0 = female). The largest portion of the sample identified as female (52.5%).

The race variable was collected as a write in option that allowed the participants to self-identify their own racial categories. The largest portion of the sample identified as White (75%). The remaining 25% of the sample was composed of people identifying as Black/African American, Asian, Hispanic, Bi/Multiracial, and Native American. This variable was dichotomized because the other racial and ethnic categories did not make up a large enough percentage to justify using individual variables (1 = white, 0 = non-white).

Participants were asked to provide the name of the state they live in to determine if the area of the U.S. participants lived in influenced perceptions of SC. States were coded into regions using the same regions as the U.S. Census Bureau (1 = Northeast, 2 = South, 3 = Midwest, 4 = West), with the largest portion of the sample residing in the South (36%).

Participants were asked to provide the last year of education completed. Approximately 85% of the sample indicated they had at least some level of post-

secondary education. To account for this, the variable was dichotomized (1 = four or more years of college, 0 = less than four years of college).

Participants were asked to provide their annual income from the prior year using one of eight options ranging from less than \$15,000 to \$150,000 or more. The largest portion of participants indicated they earned between \$50,000 and 74,999 (24.7%). The mean income of the sample was between \$35,000 and 49,999. With the sample being divided at around \$50,000, the variable for income was dichotomized (1 = \$50,000 and above, 0 = less than \$50,000).

Participants were asked to rank how liberal or conservative they considered themselves on a scale of one to nine, with one being extremely liberal and nine being extremely conservative to determine their political ideology. The mean for the sample was 4.3, indicating that the sample was slightly more liberal than conservative. To be able to use this as a control measure, the sample was divided using the median. Those who indicated their political ideology was more conservative leaning, five or above, were marked as “more conservative” (1), and those who were more liberal leaning were those who were four and below (0).

Seven religious preference categories were offered for participants to choose from: (1) Catholic, (2) Jewish, (3) Protestant, (4) Baptist, (5) Muslim/Islamic, (6) Other (specify), and (7) Not religious. Participants wrote in many variations of Christianity, various forms of spirituality, Buddhist, Pagan, Wiccan, Hindu, and various forms of non-religious beliefs (i.e., atheist, agnostic). The largest portion of the sample was not religious (48.8%), while the second largest portion indicated they followed some form of Christianity (43.0%). The remaining religious preferences combined to less than ten

percent of the total sample, so the variable was dichotomized. For analytical purposes participants were classified as either religious (1) or not religious (0).

Statistical Analyses.

In order to ensure that the participants were assigned to each of the conditions were not significantly different, descriptive analyses were conducted. Chi-Square was used to assess the prevalence of demographic characteristics within each treatment condition to ensure that there were no concerning differences between groups.

The primary analyses were used to determine if there was a change in support for SC between the pre- and post-intervention measurement, and also to determine the role of confirmation bias in the change in participants' scores. Paired samples t-tests were conducted to assess differences within conditions from the time one measurement to the time two measurement. One-way Analysis of Variance (ANOVA) was used to determine the role of punitive orientation in the outcome of score change. Moderator analyses for both were also conducted to assess for differences between groups using demographic characteristics, including age, gender, race, education, income, political ideology, religious preference, and region. Scores were interpreted using the direction, significance and magnitude of the differences between and within conditions. Using Cohen's (1988) guidelines, $d < .2$ is interpreted as a trivial difference, $d = .2$ is interpreted as a small difference, $d = .5$ is interpreted as a medium difference, and $d = .8$ is interpreted as a large difference.

Results

Chi-Square tests were conducted to assess if there were any statistically significant differences on the prevalence of demographic characteristics within each treatment condition between two groups. The results from these analyses indicated that, overall, the participants in both treatment conditions were similar with the exception of two demographic variables. There was a significant difference between the two groups for the categorical variables gender (45.3% vs. 54.7%) and education (45.5% vs. 54.5%). The condition SC is not necessary/is harmful had a greater percentage of males and those with four years or more of college. All of the demographic variables indicated that the groups were comparable. The full results from these analyses are displayed in Table 2.

Table 2

Prevalence of demographic characteristics in the SC is necessary/not harmful (n = 250) and SC is not necessary/is harmful (n = 250) treatment conditions

Characteristic	SC Necessary/ Not Harmful		SC Not Necessary/Is Harmful		X ² (1)
	n	%	n	%	
35 and under	117	49.4	120	50.6	2.90
Male	107	45.3	129	54.7	4.08 *
White	188	50.5	184	49.5	.17
Northeast	57	51.4	54	48.6	.12
South	92	51.4	87	48.6	.25
Midwest	46	48.4	49	51.6	.10
West	53	47.3	59	52.7	.38
4 years or more of college	111	45.5	133	54.5	3.87 *
More conservative	123	52.3	112	47.7	.82
\$50,000 or more	119	52.0	110	48.0	.72
Religious	124	48.6	131	51.4	.39

To determine if the treatment conditions differed by participants' punitive orientation or SC support score, independent samples t-tests were conducted. The means for each condition were compared for the variables and the tests concluded that the means were not statistically different. This result indicated that participants in the two conditions had comparable attitudes towards punishment and their support for SC.

Research question one sought to determine if information could change perceptions on the use of SC. Any significant change in score would indicate that information is influential to belief updating. To address this question and assess within-group changes, paired samples t-tests were conducted to determine if there was a difference in SC support scores from the baseline assessment prior to intervention and the post-intervention assessment for the total sample and eight moderating demographic variables. The results are presented in Tables 3a and 3b. The tests indicated that participants' support for confinement was significantly different for both conditions across the total sample and all eight moderating demographic variables ($p \leq .001$). Though each test was statistically significant, the differences between each range in magnitude from small to medium.

Table 3a.

Differences in pre and post-intervention support for solitary confinement scores for the total sample and eight moderating demographic variables, by treatment condition

SC is Necessary/Not Harmful					
	<u>Pre</u>	<u>Post</u>			
Variable	M (SD)	M (SD)	Change	<i>t</i>	<i>d</i>
Total Sample	36.8 (17.6)	41.7 (17.9)	+4.9	8.49 ***	.28
Age					
35 and Under	33.3 (17.1)	39.1 (18.1)	+5.8	6.12 ***	.33
36 and Over	40.1 (17.4)	44.2 (17.6)	+4.1	5.89 ***	.23
Gender					
Female	36.7 (16.9)	41.9 (17.9)	+5.2	7.57 ***	.30
Male	37.2 (18.3)	41.8 (18.1)	+4.6	4.54 ***	.25
Race					
Non-White	36.0 (15.5)	42.5 (16.6)	+6.5	3.80 ***	.40
White	37.2 (18.2)	41.7 (18.5)	+4.5	8.15 ***	.25
Region					
Northeast	38.3 (18.1)	42.7 (17.1)	+4.4	4.15 ***	.25
South	36.9 (17.4)	42.5 (18.0)	+5.5	5.05 ***	.32
Midwest	36.6 (17.6)	41.9 (18.2)	+5.3	3.96 ***	.30
West	35.6 (17.8)	39.8 (19.1)	+4.2	3.76 ***	.23
Education					
Less than 4 Yrs of College	38.2 (16.6)	43.30 (17.1)	+5.1	5.79 ***	.30
Four or More Yrs of College	35.1 (18.7)	39.8 (18.9)	+4.7	6.70 ***	.25
Political Ideology					
More Liberal	30.4 (16.3)	35.6 (17.4)	+5.1	6.93 ***	.31
More Conservative	43.4 (16.4)	48.1 (16.3)	+4.7	5.22 ***	.29
Annual Income					
Less than \$50,000	36.1 (16.3)	39.9 (17.6)	+3.8	5.40 ***	.22
\$50,000 or more	37.6 (18.9)	43.8 (16.3)	+6.2	6.57 ***	.33
Religious Affiliation					
Not Religious	35.1 (17.9)	38.6 (18.8)	+3.5	5.08 ***	.19
Religious	38.4 (17.1)	44.9 (16.6)	+6.5	6.94 ***	.39

*** Denotes $p \leq .001$

Note: + Indicates change in support towards SC is Necessary/Not Harmful Condition

Table 3b.

Differences in pre and post-intervention support for solitary confinement scores for the total sample and eight moderating demographic variables, by treatment condition

SC is Not Necessary/Is Harmful					
	<u>Pre</u>	<u>Post</u>			
Variable	M (SD)	M (SD)	Change	<i>t</i>	<i>d</i>
Total Sample	36.3 (16.3)	29.2 (17.3)	-7.1	-12.37 ***	.42
Age					
35 and Under	35.8 (16.1)	28.6 (17.0)	-7.1	-7.56 ***	.43
36 and Over	36.9 (16.6)	29.8 (17.5)	-7.1	-10.34 ***	.42
Gender					
Female	34.4 (15.6)	27.4 (16.3)	-7.0	-9.02 ***	.44
Male	37.9 (16.8)	30.7 (18.0)	-7.2	-8.52 ***	.41
Race					
Non-White	39.3 (15.3)	30.8 (17.1)	-8.5	-6.23 ***	.52
White	35.2 (16.6)	28.7 (17.4)	-6.5	-10.63 ***	.38
Region					
Northeast	37.21 (15.8)	29.6 (16.7)	-7.6	-6.17 ***	.47
South	36.9 (16.4)	30.9 (17.2)	-6.0	-6.91 ***	.36
Midwest	35.5 (16.1)	28.1 (16.8)	-7.4	-5.17 ***	.45
West	34.7 (17.2)	26.8 (18.4)	-7.9	-6.27 ***	.44
Education					
Less than 4 Yrs of College	37.0 (16.3)	30.7 (17.2)	-6.3	-7.83 ***	.38
Four or More Yrs of College	35.7 (16.1)	27.8 (17.4)	-7.9	-9.61 ***	.47
Political Ideology					
More Liberal	30.4 (15.5)	23.6 (15.7)	-6.8	-8.29 ***	.44
More Conservative	43.3 (14.6)	35.8 (16.9)	-7.5	-9.32 ***	.47
Annual Income					
Less than \$50,000	35.2 (16.5)	28.5 (17.2)	-6.7	-9.31 ***	.40
\$50,000 or more	37.7 (16.1)	30.1 (17.5)	-7.6	-8.17 ***	.45
Religious Affiliation					
Not Religious	30.9 (17.2)	25.5 (17.3)	-5.4	-7.13 ***	.31
Religious	41.0 (14.0)	32.5 (16.8)	-8.5	-10.26 ***	.55

*** Denotes $p \leq .001$

Note: - Indicates change in support towards SC is Not Necessary/Is Harmful Condition

Research questions two and three sought to determine if an individual's belief in punishment or demographic characteristics would influence their belief updating on the use of SC. Analyses were conducted to determine if demographics alone impacted change in score in SC, and the results indicated that demographics alone did not influence change, however, when combined with punitive orientation, these characteristics become more meaningful. To determine the influence of prior belief in punishment and demographics influenced change in support for SC, one-way ANOVA tests were conducted for the total sample and eight moderating demographic variables to assess between-group differences. These analyses were used to determine if confirmation biases impacted the change in score for participants. Should confirmation bias play a role in belief updating, those who receive information which confirms their existing beliefs should have the largest mean change in support for SC. Specifically, those who are low punitive orientation in the SC is not necessary/is harmful condition should have the largest decrease in support for SC, while those who are high punitive orientation in the SC is necessary/not harmful condition should have the largest increase in support for SC. The results from these analyses are presented in Tables 4a and 4b. The analyses did not indicate that punitive orientation or any of the eight moderating demographic variables affected the change in support for SC score for the treatment condition SC is not necessary/is harmful (see Table 4b).

A statistically significant difference was found among the three punitive orientation groups on change in SC support score for the participants who received the SC is necessary/not harmful intervention $F(2, 247) = 5.98, p = .003$. The Games-Howell

post hoc test was used because the analysis indicated the variances were unequal. The post hoc test showed that the low punitive orientation group differed significantly from the moderate punitive orientation group ($p = .029$, $d = .41$) and the high punitive orientation group ($p = .019$, $d = .44$). These effect sizes would be considered small by Cohen's (1988) guidelines. The low punitive orientation group had a mean increase in score of 7.85, while the other two groups rose at nearly equal rates.

Table 4a.

One-way analysis of variance for the effect of punitive orientation on change in support for solitary confinement for the total sample and eight moderating demographic variables, by treatment condition

SC is Necessary/Not Harmful				
	<u>Low Punitive</u>	<u>Moderate Punitive</u>	<u>High Punitive</u>	
Measure	M (SD)	M (SD)	M (SD)	<i>F</i>
Total Sample	+7.85 (12.46)	+3.56 (8.02)	+3.64 (5.63)	5.98 **
Age				
35 and under	+10.06 (14.54)	+3.09 (8.76)	+4.60 (5.99)	4.75 **
36 and over	+5.97 (10.15)	+3.81 (7.66)	+2.47 (4.99)	2.05
Gender				
Female	+6.52 (10.08)	+5.22 (8.11)	+3.50 (4.68)	1.64
Male	+10.69 (16.29)	+1.51 (7.51)	+3.73 (6.51)	6.66 **
Race				
Non-White	+11.18 (21.68)	+4.89 (10.26)	+4.61 (5.73)	1.43
White	+6.99 (8.84)	+3.23 (7.32)	+3.26 (5.59)	5.34 **
Region				
Northeast	+8.34 (9.78)	+3.42 (8.11)	+2.02 (4.65)	3.18 *
South	+10.12 (17.06)	+3.08 (6.67)	+4.67 (5.61)	3.55 *
Midwest	+6.69 (11.34)	+4.50 (8.96)	+4.45 (6.74)	.31
West	+5.67 (8.48)	+4.15 (10.33)	+2.82 (5.63)	.55
Educational Attainment				
Less than four years of college	+8.76 (14.82)	+3.59 (8.35)	+3.13 (4.95)	4.32 *
Four years or more of college	+6.62 (8.28)	+3.53 (7.66)	+4.20 (6.29)	1.66
Political Ideology				
More Liberal	+6.11 (10.71)	+4.47 (7.62)	+4.88 (6.05)	.45
More Conservative	+10.24 (14.34)	+2.59 (8.42)	+2.68 (5.14)	7.86 ***
Annual Income				
Below \$50,000	+5.28 (9.32)	+2.79 (8.52)	+3.24 (5.84)	1.18
\$50,000 or more	+10.95 (15.12)	+4.28 (7.55)	+4.12 (5.42)	5.76 **
Religious Affiliation				
Not Religious	+6.08 (8.52)	+1.31 (8.08)	+3.53 (5.59)	3.97 *
Religious	+9.16 (14.65)	+6.11 (7.24)	+3.86 (5.79)	2.86

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Note: + Indicates change in support towards SC is Necessary/Not Harmful Condition

Table 4b.

One-way analysis of variance for the effect of punitive orientation on change in support for solitary confinement for the total sample and eight moderating demographic variables, by treatment condition

SC is Not Necessary/Is Harmful

	<u>Low Punitive</u>	<u>Moderate Punitive</u>	<u>High Punitive</u>	
Measure	M (SD)	M (SD)	M (SD)	F
Total Sample	-7.39 (8.76)	-6.40 (7.99)	-7.44 (10.36)	.33
Age				
35 and under	-7.08 (8.56)	-6.45 (9.64)	-8.11 (12.91)	.25
36 and over	-7.72 (9.12)	-6.58 (5.33)	-6.76 (7.53)	.28
Gender				
Female	-8.60 (9.62)	-5.93 (6.60)	-5.01 (7.98)	1.98
Male	-5.45 (6.86)	-6.99 (9.45)	-8.51 (11.12)	1.11
Race				
Non-White	-11.87 (9.90)	-6.88 (11.37)	-6.84 (10.72)	1.49
White	-5.89 (7.85)	-6.06 (5.85)	-7.62 (10.33)	.83
Region				
Northeast	-6.37 (8.79)	-5.33 (6.97)	-10.59 (10.37)	1.86
South	-6.26 (7.80)	-5.95 (6.53)	-5.77 (9.82)	.03
Midwest	-8.55 (8.68)	-5.82 (6.94)	-7.78 (14.47)	.32
West	-8.55 (10.10)	-8.93 (11.71)	-6.24 (7.34)	.40
Educational Attainment				
Less than four years of college	-7.21 (9.54)	-6.47 (6.79)	-5.12 (9.21)	.60
Four years or more of college	-7.55 (8.10)	-6.34 (8.91)	-9.64 (11.01)	1.35
Political Ideology				
More Liberal	-5.67 (8.24)	-6.40 (8.85)	-8.59 (11.54)	1.13
More Conservative	-9.50 (9.12)	-6.39 (6.87)	-6.42 (8.97)	1.70
Annual Income				
Below \$50,000	-6.36 (8.11)	-7.50 (9.16)	-6.29 (8.39)	.29
\$50,000 or more	-8.19 (9.24)	-4.76 (5.60)	-9.65 (13.28)	2.07
Religious Affiliation				
Not Religious	-4.31 (7.31)	-6.43 (8.55)	-5.56 (8.98)	.65
Religious	-9.67 (9.20)	-6.36 (7.45)	-9.14 (11.31)	1.42

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Note: - Indicates change in support towards SC is Not Necessary/Is Harmful Condition

There were also significant differences found among the three punitive orientation groups among the demographic variables examined. The low punitive orientation group showed higher post-intervention change in SC support scores than both the moderate and high punitive orientation groups in the following conditions: Race (white) and political ideology (more conservative). The analyses showed that the mean change in score was higher for lower punitive orientation group than either of the other groups. Those who were in the low punitive orientation group and were white increased their scores at twice the rate of those who were in the moderate and high punitive orientation groups $F(2, 185) = 5.34, p = .006$. For political ideology, those who were more conservative in the low punitive orientation group increased their support for SC at nearly four times the rate of those in either of the groups $F(2, 120) = 7.86, p = .001$. Post hoc tests showed that the effect sizes for the differences between groups and the race variable were small ($d = .37, .41$), while those for political ideology were medium ($d = .65, .70$).

Analyses showed a statistical difference between the low punitive orientation and the moderate punitive orientation groups in the following conditions: Age (35 and under), gender (male), and religious affiliation (not religious). The low punitive orientation group had a mean increase in support for SC score more than four times that of the moderate punitive orientation group for the demographic variable religious affiliation. Post hoc tests indicated the effect size for this variable was small ($d = .21$). When examining age, those who were 35 and under in the low punitive orientation group increased their support score three times that of the moderate punitive orientation group $F(2, 114) = 4.75, p = .010$. The effect size for the differences between these groups was medium ($d =$

.58). The largest increase between these two groups was found when examining those who were male. Males in the low punitive orientation group increased their support scores approximately seven times that of the moderate punitive orientation group $F(2, 104) = 6.66, p = .002$. The difference between these groups was considered a medium effect size ($d = .72$).

A significant difference was found between the low punitive orientation group and the high punitive orientation group in the following conditions: Region (Northeast and South), educational attainment (less than four years of college), and income (\$50,000 or more). The analyses indicated that those in the low punitive orientation group had mean score increases twice those of the high punitive orientation group for participants who lived in the South. Despite the one-way ANOVA showing significance, post hoc testing did not indicate that these differences were more than trivial. Participants who lived in the Northeast in the low punitive orientation group increased their scores four times that of those in the high punitive orientation group. Post hoc tests showed this was a large effect ($d = .83$). The analyses indicated those who had less than four years of college in the low punitive orientation group increased their scores nearly 1.5 times that of those who were in the high punitive orientation group $F(2, 136) = 4.32, p = .015$. Post hoc analyses showed that the differences between the groups were medium ($d = .51$). Tests also indicated a difference between punitive orientation groups and the moderating variable income, specifically for those who made \$50,000 or more the prior year $F(2, 116) = 5.76, p = .004$. Those in the low punitive orientation group increased their scores at more than 2.5 times the rate of the high punitive orientation group. The effect size for these differences would be considered medium ($d = .60$).

Discussion

The findings of the study suggest that providing people with information about SC can influence their belief about its use. More specifically, participants in both conditions updated their support for SC in the expected direction as dictated by the information presented in the two videos for each of the treatment conditions. That is, participants in the SC is not necessary/is harmful condition had lower support for the practice of SC following the information presented in the video, while those in the SC is necessary/not harmful condition increased their support for the use of SC. These findings were consistent across all three punitive orientation categories examined. This study sought to determine if providing people with information about SC could cause them to update their beliefs about its use, and these findings indicate that information can cause a person to change their opinion about SC.

Contrary to prior research, this study did not find support for confirmation bias affecting participants' ability to update their beliefs on the use of SC. Those who received information that refuted their original punitive orientation, had the largest change in score. Confirmation bias literature suggests that those who receive information that contradicts their initial position should reject the information or distort it to increase the strength of their existing beliefs. For this to be true in this study, participants who were considered to be low punitive orientation should have had the largest decrease in their score change in the SC is not necessary/is harmful condition, while those who were considered high punitive orientation should have had the largest increase in support for SC in the SC is necessary/not harmful condition. The results of this study did not show

either of those instances to be true. Participants who were assigned to the SC is not necessary/is harmful condition did not differ significantly in their change in support for the use of SC, regardless of their punitive orientation. For this condition, it appears likely that the information delivered in the treatment video was largely responsible for the change in support for SC.

For the SC is necessary/not harmful condition, disconfirming information appears to have had the largest impact with score changes within this study. Participants considered to have low punitive orientation had a larger mean change in support for SC than participants with either of the other two punitive orientations. These differences, though small, were notable when viewing the mean change for the total sample.

Differences between groups are more pronounced when examining this condition with the moderating demographic variables. The largest differences, based on Cohen's (1988) guidelines, appeared for those who are males, who are more conservative, and who live in the Northeast when they were also considered low punitive. The differences that were found among those who were younger, without a bachelor's degree, earned \$50,000 or more a year, and who were not religious were smaller than those for gender, political ideology and region, but can still be interpreted as medium differences. These findings address the third research question in this study, which sought to determine if demographic characteristics impacted belief updating for the use of SC. This shows that for some participants, demographic characteristics did play a role in belief updating, but only for those participants who were considered to have low punitive orientation.

Some psychology research suggests that people are willing to update social stereotypes with disconfirming information, as long as this information is not extremely

inconsistent with their prior beliefs (see Tausch & Hewstone, 2010). For some participants with low punitive orientation, perhaps the information presented in the SC is necessary treatment condition may not be “extremely” inconsistent. Some research has shown that men are more supportive of punishment than women (see Applegate, Cullen, & Fisher, 2002), thus even males in the low punitive orientation group could be more supportive of punishment than the females in this same group. Disconfirming information about SC could be less extreme for males than it is for females, and this may help explain why males in this condition updated their beliefs more than females. Similar to this notion, other research has shown that those who are white are more supportive of punitive policies than are those who are not white (see Hutchings, 2015). It is possible that, for some participants, the decision to increase their support for SC in the face of disconfirming information is because the information they received was only a moderate deviation from their existing beliefs, and therefore, they were more willing to accept the information presented.

If confirming information is not a factor in participants’ willingness to update their support for the use of SC in this study, one must consider other factors that could be facilitating this change. Prior research suggests that those with weakly held beliefs may be more susceptible to change than others, even when those beliefs regard matters of life and death such as support for the use of capital punishment (Unnever, Cullen, & Roberts, 2005). This suggests that, for some people, it is possible that their opinions of punishing those who have committed crimes is not something they hold as a moral belief, as some scholars have suggested. If this is true, and beliefs about SC are more malleable than beliefs about other issues, it may be easier to align public perception with the existing

body of research through education. It is also possible that some found the information presented as a moral conflict as indicated in prior research (see Horne et al., 2015). Information about the participants' belief in punishment as something deeply rooted within morality was not collected for this study, so assumptions cannot be made about how strongly participants held onto their beliefs about punishment.

It is also possible that change was facilitated through priming. Participants were presented with information which strongly suggested that SC was a necessary practice to ensure the safety and security within prisons. When faced with information that contradicted their existing beliefs of torture, people were still willing to support the position that torture was an effective tool to elicit information from suspects (Kearns & Young, 2017). If priming is a factor to sway participants to support the use of torture, despite expert opinion suggesting that it is ineffective, it is not unreasonable to assume that information can be used to sway public perception towards other policies and practices that may not function precisely how they are depicted in the media. This highlights a larger issue relating to how correctional practices, such as SC, are portrayed in the media and the potential influence it may have on public opinion.

Limitations and future research

This study, like many others, is not without its limitations. First, the manipulation check questions for participants was not the same across both conditions. Not having the same questions available to all participants could mean that people who should not have been included in the study were included in the final analyses. Should this study be re-created, it should include the same questions for both conditions, to ensure the manipulation was effective.

Some of the variables collected for this study were continuous variables that were cut for analytical purposes. The decision to trichotomize the vengeance scale could have resulted in a loss of information regarding individual differences as there are not meaningful differences between values. Research indicates that splitting continuous variables could lead to a loss of power and potentials for Type I and Type II errors (MacCallum, Zhang, Preacher, & Rucker, 2002; McClelland, Lynch, Irwin, Spiller, & Fitzsimons, 2015). Future replications of this study should include analyses with these variables as continuous before any decisions to cut the data are made.

Another concern is the length of time between the pre-intervention measurement and the post-test measurement of SC support. It is possible that within this short time period that participants were able to recognize that the study was designed to measure change in support, thus, they may have been more inclined to respond in a way that would be desirable by the examiner. This may be some adaptation of the “Hawthorne Effect,” in which participants change their behavior when they feel they are being watched (McCambridge, Witton, & Elbourne, 2014). One way to overcome this limitation would be to assess participants’ support for confinement after manipulation at another point in time, perhaps several hours or days later.

An additional limitation to this study is being unable to determine whether or not changes in perception are lasting. This study is cross sectional and captures a change in perception at only one moment in time. This study could be improved by scheduling a series of follow up measurements to determine if participants’ scores return to baseline levels, and if so, how long did the change persist. In one study assessing opinion change following exposure to manipulation, participants returned to baseline levels within three

years (see Bohm & Vogel, 2004). It is important to determine if these changes last only a few hours, a few days, or if they are lasting changes in participant beliefs.

It would be interesting to determine how knowledgeable about SC participants were prior to intervention. This measurement could be used to determine if the intervention was actually informing an under-educated participant about the practice of SC. Prior research suggests that people are largely uninformed about the criminal justice system, and without exposure, it is likely that the information they have about SC is inaccurate. It may also be important to include questions to determine where the information they have has been acquired. If the majority of their information is obtained from the media, it could confirm the role of media as a priming agent.

There are other factors that could be considered when attempting to determine what influences belief updating. It is possible that participants responded in a way that was socially desirable. Future research could include an instrument to measure this to determine if it social desirability influenced belief updating. Other areas to look at would involve the participants' own experience with the criminal justice system, either as a victim or a formerly incarcerated person. It is possible that these might influence one's perceptions regarding correctional policies.

Conclusion

The purpose of this study was to determine if information could influence a person's willingness to update his or her beliefs about the use of SC. Prior to this study, there was only one other that sought to assess public support for the practice of SC. The findings from this study support the notion that information can facilitate belief updating. These findings have implications for SC research, and criminal justice policies in general, because they suggest that it is possible that the general public may be under informed on correctional practices and providing information may facilitate a change in perception to gain support for various practices. In turn, it may also be used as a tool to sway public support away from practices long held to be effective, despite research indicating the contrary. If lawmakers base some policies on the current public policy mood of their constituents, it would be beneficial to ensure that this body of people is properly informed. These findings highlight the need for more research to determine why information plays such a vital role in belief updating, specifically to determine if the public is truly under-informed about correctional policies because so many of them happen outside the public eye. It is possible that much of their existing knowledge is acquired from the media, and thus, their perceptions may be based on potentially false or biased information. If the public is truly under-informed, information could be disseminated to educate the public and policy makers about the realities of the use and effects of SC.

Deviating from the existing research, this study did not find support for the role of confirmation bias in belief updating. Each group updated their beliefs in the direction

dictated by the condition they received. Those who received information that told them that SC was harmful decreased their scores, while those who received the condition that said that SC was necessary increased their support for SC. Participants' prior belief about punishment did not seem to play a role in whether or not they accepted the information that was presented to them. In fact, disconfirming information appears to have a larger role in belief revision than confirming information. To isolate the exact reason why disconfirming information was more compelling than confirming information in this study would require further research, but a few ideas have emerged following a review of the existing literature.

There is a possibility that the disconfirming information presented in the SC is necessary/not harmful condition was not a significant deviation from the existing beliefs for some participants, specifically those with certain demographic characteristics in the low punitive orientation group. If this is the case with these participants, it may require a lower threshold of evidence to sway their opinions about the use of SC. It is also possible that much like the media, the SC is necessary/not harmful treatment video created a priming effect, thus influencing even those who do not support SC to sway to increase their support for the use of this practice. The video for this condition did have footage of prison violence, but the level of violence was no more severe than what could be shown on network television. Despite the minor violence, it is still possible that this depiction primed some participants with the notion that violence is running rampant within U.S. prisons and SC is an essential function to maintain safety.

The findings of this study contribute to the body of the existing research in a meaningful way. There is increased understanding of the malleability of public

perception and how information can help the public change their opinions about correctional policies. These findings, should they be replicated in further studies, could potentially be used to further an education initiative to create a more informed public.

References

- Aly, M., & Turke-Browne, N. B. (in press). Flexible weighting of diverse inputs makes hippocampal function malleable. *Neuroscience Letters*, (2017).
- Appelbaum, K. L. (2015). American psychiatry should join the call to abolish solitary confinement. *Journal of the American Academy of Psychiatry and the Law*, 43, 406-415.
- Applegate, B. K. (1997). Specifying public support for rehabilitation. Unpublished doctoral dissertation, University of Cincinnati, Cincinnati.
- Applegate, B. K., Cullen, F. T., & Fisher, B. S. (2002). Public views toward crime and correctional policies: Is there a gender gap? *Journal of Criminal Justice*, 30(2002), 89-100.
- Arrigo, B. A., & Bullock, J. L. (2008). The psychological effects of solitary confinement on prisoners in supermax units: Reviewing what we know and recommending what should change. *International Journal of Offender Therapy and Comparative Criminology*, 52(6), 622-640.
- Beck, A. J. (2015). Use of restrictive housing in U.S. prisons and jails, 2011-12 (NCJ 249209). Washington, D.C.: National Institute of Justice.
- Bennion, E. (2015). Banning the bing: Why extreme solitary confinement is cruel and far too usual punishment. *Indiana Law Journal*, 90, 741-786.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon. com's Mechanical Turk. *Political Analysis*, 20(3), 351-368.

- Bohm, R. M., & Vogel, B. L. (2004). More than ten years after: The long-term stability of informed death penalty opinions. *Journal of Criminal Justice*, 32, 307-327.
- Butler, H. D., Griffin, O. H., & Johnson, W. W. (2012). What makes you the “worst of the worst?” An examination of state policies defining supermaximum confinement. *Criminal Justice Policy Review*, 24(6), 676-694.
- Cobb, M. D., Nyhan, B., & Reifler, J. (2012). Beliefs don’t always persevere: How political figures are punished when positive information about them is discredited. *Political Psychology*, 34(3), 307-326.
- Cochran, J. C., Toman, E. L., Mears, D. P., & Bales, W. D. (2018). Solitary confinement as punishment: Examining in-prison sanctioning disparities. *Justice Quarterly*, 35(3), 381-411.
- Cockrell, J. F. (2013). Solitary confinement: The law today and the way forward. *Law & Psychology Review*, 37, 211-227.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Hillsdale, NJ: Lawrence Erlbaum
- Cullen, F. T., Fisher, B. S., & Applegate, B. K. (2000). Public opinion about punishment and corrections. *Crime and Justice*, 27, 1-79.
- Cullen, F. T., & Gilbert, K. E. (1982). *Reaffirming rehabilitation*. Cincinnati, OH: Anderson Publishing Co.
- Davis v. Ayala, 576 US_ (2015)
- Dierenfeldt, R., & Carson, J. V. (2017). Examining the influence of Jessica’s Law on reported forcible rape: A time-series analysis. *Criminal Justice Policy Review*, 28(1), 87-101.

- Fettig, A. (2017). The movement to stop youth solitary confinement: Drivers of success & remaining challenges. *South Dakota Law Review*, 62(3), 776-788.
- Frost, N. A. (2010). Beyond public opinion polls: Punitive public sentiment & criminal justice policy. *Sociology Compass*, 4(3), 156-168.
- Frost, N. A., & Montiero, C. E. (2016). Administrative segregation in U.S. prisons (NCJ 250316). In *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions*. Washington, D.C.: National Institute of Justice.
- Grassian, S., & Friedman, N. (1986). Effects of sensory deprivation in psychiatric seclusion and solitary confinement. *International Journal of Law and Psychiatry*, 8, 49-65.
- Hagan, B. O., Wang, E. A., Aminawung, J. A., Albizu-Garcia, C. E., Zaller, N., Nyamu, S., ... Transitions Clinic Network (2017). History of solitary confinement is associated with Post-Traumatic Stress Disorder symptoms among individuals recently released from prison. *Journal of Urban Health*, 1-8. DOI: 10.1007/s11524-017-0138-1
- Haney, C. (2003). Mental health issues in long-term solitary and “supermax” confinement. *Crime & Delinquency*, 49(1), 124-156.
- Hauser, D. J., & Schwarz, N. (2015). Attentive turkers. MTurk participants perform better on online attention checks than do subject pool participants. *Behavioral Research*, 48, 400-407.
- Horne, Z., Powell, D., & Hummel, J. (2015). A single counterexample leads to moral belief revision. *Cognitive Science*, 39, 1950-1964.

- Hutchings, V. (2015). Race, punishment, and public opinion. *American Political Science Association*, 13(3), 757-761.
- Kaeble, D., & Glaze, L. (2016). Correctional population in the United States, 2015 (NCJ 250374). Washington, D.C.: Bureau of Justice Statistics.
- Kearns, E. M. (2015). The study of torture: Why it persists, why perceptions of it are malleable, and why it is difficult to eradicate. *Laws*, 4, 1-15.
- Kearns, E. M., & Young, J. K. (2017). "If torture is wrong, what about 24?" Torture and the Hollywood effect. *Crime & Delinquency*, 00(0), 1-22.
- Kelsall, D. (2014). Cruel and unusual punishment: Solitary confinement in Canada. *Canadian Medical Association Journal*, 186(18), 1345.
- Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality & Quantity*, 47, 2025-2047.
- Kupers, T. A. (2008). What to do with the survivors? Coping with long-term effects of isolated confinement. *Criminal Justice and Behavior*, 35(8), 1005-1016.
- Kurki, L., & Morris, N. (2001). The purposes, practices, and problems of supermax prisons. *Crime and Justice*, 28(2001), 385-424.
- Lambert, E. G., Camp, S. D., Clarke, A., & Jiang, S. (2011). The impact of information on death penalty support, revisited. *Crime & Delinquency*, 54(4), 572-599.
- LaChappelle, L. (2014). Capital punishment in the era of globalization: A partial test of the Marshall Hypothesis among college students. *American Journal of Criminal Justice*, 39, 839-854.
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, 7(1), 19-40.

- Martinson, R. "What works?— questions and answers about prison reform," *The Public Interest*, Spring, 1974, 22-54
- McCambridge, J., Witton, J., & Elbourne, D. R. (2014). Systematic review of the Hawthorne effect: New concepts needed to study research participation effects. *Journal of Clinical Epidemiology*, 67, 267-277.
- McClelland, G. H., Lynch, J. G., Jr., Irwin, J. R., Spiller, S. A., & Fitzsimons, G. J. (2015). Median splits, Type II errors, and false positive consumer psychology: Don't fight the power. *Journal of Consumer Psychology*, 25(4), 679-689.
- Mears, D.P., & Castro, J. L. (2006). Wardens' views on the wisdom of supermax prisons. *Crime & Delinquency*, 52(3), 398-431.
- Mears, D. P., & Watson, J. (2006). Towards a fair and balanced assessment of supermax prisons. *Justice Quarterly*, 23(2), 232-268.
- Mears, D. P. (2008). An assessment of supermax prisons using evaluation research framework. *The Prison Journal*, 88(1), 43-68.
- Mears, D. P., Mancini, C., Beaver, K. M., & Gertz, M. (2013). Housing for the "worst of the worst" inmates: Public support for supermax prisons. *Crime & Delinquency*, 59(4), 587-615.
- Mears, D. P. (2016). Critical research gaps in understanding and the effects of prolonged time in restrictive housing on inmates and the institutional environment (NCJ 250322). In *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions*. Washington, D.C.: National Institute of Justice.
- Merritt, N., Fain, T., & Turner, S. (2006). Oregon's get tough sentencing reform. A lesson in justice system adaptation. *Criminology & Public Policy*, 5(1), 5-36.

- Morgan, R. D., Gendreau, P., Smith, P., Gray, A. L., Labrecque, R. M., MacLean, N., ... Mills, J. F. (2016). Quantitative syntheses of the effects of administrative segregation on inmates' well-being. *Psychology, Public Policy, and Law*, 22(4), 436-461.
- Morris, R. G. (2016). Exploring the effect of exposure to short-term confinement among violent prison inmates. *Journal of Quantitative Criminology*, 32, 1-22.
- Mulligan, K., Grant, T., & Bennett, D. (2013). The dynamics of public opinion on cultural policy issues in the U.S., 1972-2010. *Political Behavior*, 35, 807-829.
- Obama, B. (2016). Why we must rethink solitary confinement. *The Washington Post*.
- Reiter, K. A. (2012). The most restrictive alternative: A litigative history of solitary confinement in U.S. prisons, 1960 – 2006. *Studies in Law, Politics, and Society*, 57, 71-124.
- Reiter, K. (2013). The origins of and need to control supermax prisons. *California Journal of Politics and Policy*, 5(2), 146-167.
- Rosenbaum, D. P., Schuck, A. M., Costello, S. K., Hawkins, D. F., & Ring, M. K. (2005). Attitudes towards the police: The effects of direct and vicarious experience. *Police Quarterly*, 8(3), 343-365.
- Ross, J., Irani, L., Silberman, M., Zaldivar, A., & Tomlinson, B. (2010, April). Who are the crowdworkers?: Shifting demographics in mechanical turk. In *CHI'10 extended abstracts on Human factors in computing systems* (pp. 2863-2872). ACM.
- Shalev, S. (2011). Solitary confinement and supermax prisons: A human rights and ethical analysis. *Journal of Forensic Psychology Practice*, 11, 151-183.

- Shavell, S. (2015). A simple model of optimal deterrence and incapacitation. *International Review of Law & Economics*, 42, 13-19
- Steiner, B., & Cain, M. A. (2016). The relationship between inmate misconduct, institutional violence, and administrative segregation: A systematic review of the evidence (NCJ 250320). In *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions*. Washington, D.C.: National Institute of Justice.
- Stuckless, N., & Goranson, R. (1992). The vengeance scale: development of a measure of attitudes toward revenge. *Journal of Social Behavior and Personality*, 7(1), 25-42.
- Tappin, B. M., van der Leer, L., & McKay, R. T. (2017). The heart trumps the head: Desirability bias in political belief revision. *Journal of Experimental Psychology: General*, 146(8), 1143-1149.
- Tausch, N., & Hewstone, M. (2010). Social dominance orientation attenuates stereotype change in the face of disconfirmation. *Social Psychology*, 41(3), 169-176.
- Unnever, J. D., Cullen, F. T., & Roberts, J. V. (2005). Not everyone strongly supports the death penalty: Assessing weakly-held attitudes about capital punishment. *American Journal of Criminal Justice*, 29(2), 187-216.
- Vasiliades, E. (2005). Solitary confinement and international human rights: Why the U.S. prison system fails global standards. *American University International Law Review*, 21(1), 71-99.
- Wozniak, K. H. (2014). American public opinion about prisons. *Criminal Justice Review*, 39(3), 305-324.

Wozniak, K. H. (2016). Perceptions of prison and punitive attitudes: A test of the penal escalation hypothesis. *Criminal Justice Review*, 41(3), 352-371.

Wozniak, K. H. (2017). The relationship between perceptions of prison and support for the death penalty versus life without parole. *Journal of Crime and Justice*, 40(2), 222-237.

Appendix A. Survey Documents and Condition Video Transcripts

Introduction to the study:

You are about to take part in a research project that examines public opinion on the use of solitary confinement within jails and prisons in the United States. By agreeing to take part in this study, you will view information about solitary confinement and will be asked to provide your opinion on the use and effects of solitary confinement.

For your participation in this study, you will be financially compensated through the Amazon payment method you have chosen through Mechanical Turk. Your participation in this study is voluntary, and you may withdraw your consent at any time. If you do not complete the survey, however, you will not receive payment. Refusal to participate will also forfeit any promised payment. In this survey there are questions to check your attention. If you do not answer these questions correctly, you will not be paid because it indicates that you did not pay appropriate attention to the question. We estimate this survey should take about 25 to 30 minutes to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits. There is no anticipation that this study will pose any more risk to you than normal daily activities.

This survey is anonymous. The researchers will not collect IP addresses, but absolute anonymity cannot be guaranteed over the internet. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Records from this survey will be kept confidential, and any information that is made public, will not include any information that would make it possible to identify you.

This study is being conducted as part of a graduate student thesis project. If you have any questions about the study, please contact Kayla LaBranche (klab2@pdx.edu) and Ryan Labrecque at the Criminology and Criminal Justice Department at Portland State University: 506 SW Mill Street, P.O. Box 751, Portland, OR 97201.

The Portland State University Institutional Review Board has reviewed this project. If you have any concerns about your rights in this study, please contact the PSU Office of Research Integrity at (503) 725-2227 or email hsrrc@pdx.edu.

I agree to participate in this study:

- Yes
- No

Section I. Directions: Please answer the following background questions.

1. What year were you born?
2. What is your sex?
3. What race do you consider yourself?
4. What state are you from?
5. What is the last year or grade of education that you completed?
 - a. Never went to high school
 - b. Went to high school but did not graduate
 - c. Graduated from high school
 - d. Finished one year of college or post-high school training
 - e. Finished two years of college
 - f. Finished three years of college
 - g. Graduated from college
 - h. Finished one or more years of graduate school
6. Generally speaking, do you think of yourself as a Republican, Democrat, or Independent?

Strong Republican Republican Independent Democrat Strong Democrat
7. We frequently hear about liberals and conservatives. Think about a scale going from 1 to 9, with 1 meaning extremely liberal and 9 meaning extremely conservative, how would you rate your own political views?

1	2	3	4	5	6	7	8	9
Extremely Liberal				Moderate		Extremely conservative		
8. Now we would like to ask you about your family income. This information is being collected for statistical purposes only and will remain confidential. Which of the following best represents your total family income last year before taxes?
 - a. Less than \$15,000
 - b. \$15,000 to 24,999
 - c. \$25,000 to 34,999

- d. \$35,000 to 49,999
- e. \$50,000 to 74,999
- f. \$75,000 to 99,999
- g. \$100,000 to 149,999
- h. \$150,000 or more

9. What is your religious preference?
- a. Catholic
 - b. Jewish
 - c. Protestant
 - d. Baptist
 - e. Other (Specify) _____
 - f. Not religious

Section II. Directions: Listed below are a number of statements that describe attitudes that different people have. There are no right or wrong answers, only opinions.

Please use the following scale to tell us whether you agree or disagree with each of the following statements. Use the response that is closest to your opinion.

Disagree Strongly Disagree Disagree Slightly Neither Disagree nor Agree Agree Slightly Agree Agree Strongly

- 1. It's not worth my time or effort pay back someone who has wronged me. (R)
- 2. It is important for me to get back at people who have hurt me.
- 3. I try to even the score with anyone who hurts me.
- 4. It is always better not to seek vengeance. (R)
- 5. I live by the motto "Let bygones be bygones". (R)
- 6. There is nothing wrong with getting back at someone who has hurt you.
- 7. I don't just get mad, I get even.
- 8. I find it easy to forgive those who have hurt me. (R)

9. I am not a vengeful person. (R)
10. I believe in the motto "An eye for an eye, a tooth for a tooth".
11. Revenge is morally wrong. (R)
12. If someone causes me trouble, I'll find a way to make them regret it.
13. People who insist on getting revenge are disgusting. (R)
14. To ensure the accuracy of this survey, answer strongly agree. (AC)
15. If I am wronged, I can't live with myself unless I get revenge.
16. Honor requires that you get back at someone who has hurt you.
17. It is usually better to show mercy than to take revenge. (R)
18. Anyone who provokes me deserves the punishment that I give them.
19. It is always better to "turn the other cheek". (R)
20. To have a desire for vengeance would make me feel ashamed. (R)
21. Revenge is sweet.

Section III. Directions: Listed below are a number of statements that describe attitudes that different people have about how inmates should be managed in prisons. There are no right or wrong answers, only opinions.

Please use the following scale to indicate your level of agreement with each of the following statements. Use the response that is closest to your opinion.

Disagree Strongly Disagree Disagree Somewhat Agree Somewhat Agree Agree Strongly

1. The best way to prevent violence in prison is to teach inmates a skill that they can use to get a job when they are released. (R)
2. Prison officials should isolate violent criminals because, if given the chance, they will hurt other inmates and staff.

3. The best way to rehabilitate offenders is to help them change their values and deal with the emotional problems that cause them to break the rules. (R)
4. Placing disruptive inmates in solitary confinement is the only way to stop them from engaging in more acts of violence and general disobedience.
5. The best way to prevent violence in prison is to provide inmates with something productive to do, such as educational and recreational programs. (R)
6. Since most criminals continue to commit crimes over and over again, the only way to protect society, prison staff, and other inmates is to lock these inmates away from everyone else and throw away the key.
7. Placing inmates in solitary confinement makes them more angry and more violent. (R)
8. Inmates deserve to be punished because they have harmed society.
9. People in prisons have made mistakes, but they deserve the opportunity to rehabilitate themselves and become productive members of society (R)
10. The best way to prevent violence and rule violations in prisons is to limit interactions between the inmates.
11. People convicted of crimes deserve whatever punishments they receive in prison; if they believe it is too harsh, they should not have committed crimes.
12. Inmates should have basic human rights and deserve to be treated humanely. (R)
13. There should not be restrictions on the amount of punishment a person can receive in prison.
14. Prison life is far too comfortable; keeping prisoners confined to their cells is the best way to ensure they are being properly punished for their crimes.
15. There would be fewer acts of violence in prison if the inmates were treated better by staff. (R)
16. People in prison are dangerous; therefore, administrators should take every precaution to make sure they are not able to hurt anyone.

17. The only way that inmates will learn that their actions are wrong is to punish them for every rule violation.
18. Keeping prisoners confined to their cells will not help them once they leave prison. (R)
19. For the safety of prison staff, inmates should be kept in their cells as much as possible.
20. Attempting to rehabilitate criminals is a waste of money; once a criminal, always a criminal.

Section IV. Each participant will be randomly assigned one of two conditions:

For the purpose of this investigation, the study defines solitary confinement as isolation in a single cell for 20 or more hours per day with minimal access to programming, services, recreation, and interaction with other people. Inmates in solitary confinement settings eat, sleep, and use the bathroom in their cell. Whenever an inmate leaves his or her solitary cell, they are handcuffed and escorted by correctional staff.

Inmates are held in solitary confinement for various amounts of time, with some spending only a few days and others spending multiple years. The reasons for placement also vary, with some sent for punitive (e.g., punishment for rule violation), protective (e.g., prevent vulnerable inmate from being the victim of attack), and other administrative purposes (e.g., threat to the institution).

More information about solitary confinement will now be provided to you in the following video:

Confinement is Necessary/Not Harmful Video Transcript:

In 2016, there was an estimated 1.2 million violent crimes in the United States. According to the FBI this is the second consecutive year that there has been an increase in these types of crimes. Over 64% of these violent crimes were physical assaults. When we are able to arrest and prosecute these violent offenders, we most often sentence them to prisons. What happens when many violent offenders are forced to share a space? Often times this means that prisons can be very violent places, which places everyone who has to work and live within them at risk for serious harm.

Some inmates pose serious threats to safety and order in prisons. Prison administrators have a duty to keep the staff and other inmates safe. Solitary confinement is the only tool available to remove these threats of harm. Solitary confinement is used to house the “worst of the worst”. These are not people who disobey minor institutional rules. They are violent and pose a serious threat to the safety and security of the institution. Nearly 70% of inmates who spent 30 or more days in solitary confinement were placed there because they assaulted other inmates or staff. Their continued presence among the general population places everyone at risk.

Without the ability to use solitary confinement, there would be little order in prisons and inmates and staff would be placed at risk for harm daily. In facilities that limit the use of confinement, the inmates and staff are at 30% greater risk for assault. Even with current policies allowing the use of confinement, more than 4,500 members of corrections staff are injured each year during encounters with inmates, and approximately 11 members of corrections staff are killed at work each year. Assaults, violent acts, and transportation-related fatalities account for 80% of these deaths.

Without the ability to confine violent inmates, other inmates may have to resort to higher levels of violence to protect themselves from harm, thus creating more violence. Imagine what it would be like to live in constant fear of being harmed and not being able to escape it. It is likely that the fear of harm in itself may create more harmful effects. When people are fearful they are unable to act rationally, they may misinterpret verbal and visual cues and overreact to situations, maybe even violently. Constantly living in fear may induce other mental conditions such as depression and PTSD. Think about what this might do to people with pre-existing mental health conditions.

Despite recent reports from the media and human rights groups, solitary confinement is not the source of mental health harms among inmates. Prior mental health issues affect roughly 40% of the inmates in prison. What this suggests is that some inmates with pre-existing mental health issues sometimes act out, and in some instances, those outbursts are violent. If these inmates are placed in segregation, it often is not for more than 30 days. The reports of people spending years in solitary confinement is not a common occurrence. Only 10% of the entire prison population spent more than 30 days in segregation.

Solitary confinement is not just for punishment; it can be used as a powerful deterrent to curb unwanted behavior and encourage rehabilitation. Upon breaking a rule, inmates are stripped of many of the privileges afforded to them in the general population. They learn what life is like without these privileges and have to earn them back. This is reinforcement that actions have consequences. Without having confinement as a tool, the inmates do not see there are consequences to their actions, and they would likely continue to act out and disobey orders. Using confinement also benefits the inmates who abide by the rules of conduct. Constant violent outbursts threaten the ability for the other inmates

to rehabilitate. Removing threats from the housing areas allows for others to continue free from distraction.

Corrections officials have a duty to protect the inmates and staff from threats of harm. Containing violence and serious threats of harm should take the highest priority within our prisons. If officials ignore the risks, terrible things may happen, such as what happened to a corrections officer in Texas. An inmate, who had been housed in segregation, slipped one hand out of his shackles and beat the officer with a pipe. Prisoners can be very dangerous, and we have to use the only tool we have to contain these threats of violence.

Manipulation Check Questions:

Solitary confinement is not needed to protect the staff and other inmates within prisons.

- Yes
- No

Which of these was the primary reason to use solitary confinement in the video?

- Some inmates are dangerous and commit acts of violence
- People who violate rules of conduct may be placed in solitary confinement to earn their privileges back as part of rehabilitation
- Corrections officers do not want to deal with difficult inmates

After watching the video, I think solitary confinement is:

- Not at all necessary
- Somewhat necessary
- Necessary
- Absolutely necessary

Confinement is Not Necessary/Is Harmful Video Transcript:

On any given day in the United States, more than 60,000 people are held in some type of solitary confinement. Prisoners in solitary often spend 23 hours of every day in a spartan concrete box the size of a parking space with fluorescent lighting that never turns off. In general, their cells have only enough space for a bed, a sink and a toilet. They usually do not have windows, so their access to natural light is limited. Inmates are served meals in their cells through a slot in the door, and interactions with other people are generally limited. Sometimes they will add a second occupant, forcing two people to live together in a tight space. This may cause more problems because the people may not get along, and the amount of free space to walk around in is further limited.

Decisions to place inmates in solitary confinement are not made by judges or juries, but rather by prison staff. These decisions are often made without any considerations to the person's mental health. The decision to confine may not be based on serious rule violations or acts of violence, and in some cases, may be applied discriminatorily. Minorities, younger inmates, persons with mental illnesses, and those who are gay, lesbian, or bisexual are more likely to be confined than those who are not.

Some are placed in confinement for simply being gang members or speaking to a known gang member. The trouble with using confinement in these instances is that it is difficult to verify gang membership. Not all people suspected of being part of a gang actually are. Even if they were part of a gang, once they are placed in confinement there is little they can do to get out. If they cut ties with their gang to leave confinement, they may be targeted and physically injured or killed.

Solitary confinement can affect the health and well-being of the inmates. Those who spend time in solitary confinement are at increased risk for health issues such as nervousness, anxiety, violent thoughts, and insomnia. Isolated prisoners experience twice the number of stress-related symptoms, and these symptoms are twice as intense, compared with the general population of maximum security prisoners. Some also experience forms of cognitive deterioration, such as not being able to remember well, learn new things or concentrate, and they can even begin to lose their grip on reality. One man who spent more than 15 years in solitary said, I've had these cell walls make me see delusions. I've tried to kill myself a few times. I've smeared my own blood on my cell walls and ceiling. I would cut myself just to see my own blood." Another said that the worst experience of his life is when he wakes up. Another said that he lived the same day over and over. Those who spend time in solitary confinement are at an increased risk of suicide in comparison to the general population.

Not only does solitary confinement contribute to mental health issues among inmates, it does not work to reduce violence or future crimes. Being housed in solitary confinement reduces the opportunities for rehabilitation which means once they are released, they will not have the tools to prevent them from committing future crimes. Some studies indicate that solitary confinement may actually increase rates of reoffending, particularly acts of violence. This effect is more pronounced when people are released from confinement directly into the community than it is when they spend at least six months in the general prison population. One warden from a prison in Maine described releasing inmates into society directly from confinement as releasing a wild dog into a community.

Keeping inmates in solitary confinement can cost two to three times more than what it costs to put them in the general population. Some estimates suggest that it can cost nearly \$80,000 per year. It does not make sense to spend more money to restrict their access to rehabilitative programs and services with no added benefits to the inmates or society.

Solitary confinement is harmful to inmates. The United Nations Convention Against Torture cites that long-term confinement can amount to cruel and unusual punishment. The effects on the well-being of the inmates, combined with its lack of deterrent effects on unwanted behavior, suggest that we need to find a solution that actually works.

Manipulation Check Questions

The video suggested that solitary confinement is a useful tool to control unwanted inmate behavior.

- Yes
- No

According to the video, inmates in solitary confinement are at an increased risk for:

- Suicide
- Stress Induced conditions
- Mental Health Issues
- Insomnia
- None of these
- All of these

After watching the video, I think solitary confinement is:

- Not at all harmful
- Somewhat harmful
- Harmful
- Very Harmful

Section V. (Filler Task) Directions: Now we would like to know your opinion on which conditions you believe are the most appropriate for people who have been convicted of a crime. Please select the response closest to your opinion for each of the following images:

Section VI. Directions: Listed below are a number of statements that describe attitudes that different people have about how inmates should be managed in prisons. There are no right or wrong answers, only opinions.

Please use the following scale to indicate your level of agreement with each of the following statements. Use the response that is closest to your opinion.

Disagree Strongly Disagree Disagree Somewhat Agree Somewhat Agree Agree Strongly

1. The best way to prevent violence in prison is to teach inmates a skill that they can use to get a job when they are released. (R)
2. Prison officials should isolate violent criminals because, if given the chance, they will hurt other inmates and staff.
3. Inmates deserve to be punished because they have harmed society.
4. The best way to prevent violence in prison is to provide inmates with something productive to do, such as educational and recreational programs. (R)
5. Since most criminals continue to commit crimes over and over again, the only way to protect society, prison staff, and other inmates is to lock these inmates away from everyone else and throw away the key.
6. Placing inmates in solitary confinement makes them more angry and more violent. (R)
7. Placing disruptive inmates in solitary confinement is the only way to stop them from engaging in more acts of violence and general disobedience.
8. The best way to rehabilitate offenders is to help them change their values and deal with the emotional problems that cause them to break the rules. (R)
9. People convicted of crimes deserve whatever punishments they receive in prison; if they believe it is too harsh, they should not have committed crimes.
10. When answering survey questions, it is sometimes easier to skim through them than read the entire statement. Answer Disagree (AC)
11. There should not be restrictions on the amount of punishment a person can receive in prison.
12. People in prisons have made mistakes, but they deserve the opportunity to rehabilitate themselves and become productive members of society (R)
13. The best way to prevent violence and rule violence in prisons is to limit interactions between the inmates.
14. Inmates should have basic human rights and deserve to be treated humanely. (R)

15. Prison life is far too comfortable; keeping prisoners confined to their cells is the best way to sure they are being properly punished for their crimes.
16. Attempting to rehabilitate criminals is a waste of money; once a criminal, always a criminal.
17. There would be fewer acts of violence in prison if the inmates were treated better by staff. (R)
18. People in prison are dangerous; therefore, administrators should take every precaution to make sure they are not able to hurt anyone.
19. The only way that inmates will learn that their actions are wrong is to punish them for every rule violation.
20. Keeping prisoners confined to their cells will not help them once they leave prison. (R)
21. For the safety of prison staff, inmates should be kept in their cells as much as possible.

Survey Debriefing:

Thank you for participating in this study. The views depicted in the videos may not be representative of the views of the primary researchers on this project. For more information about the use of solitary confinement in the U.S., we recommend the following material:

Bureau of Justice Statistics: <https://www.bjs.gov/index.cfm?ty=pbdetail&iid=5433>

Appendix B. Human Subjects Approval



Post Office Box 751
Portland, Oregon 97207-0751
Research Integrity
(Research & Strategic
Partnerships) IRB
(Human Subjects
Research Review
Committee)

503-725-2227 tel
503-725-8170 fax

hsrrc@pdx.edu

Date: December 06, 2017

To: Ryan Labrecque / Kayla LaBranche, Criminology and Criminal Justice

A handwritten signature in black ink, appearing to read 'Lindsey Wilkinson', enclosed in a rectangular box.

From: Lindsey Wilkinson, IRB Chair

Re: IRB review determination for your protocol # 174439, entitled: "The Influence of Information on Public Support for Solitary Confinement: A Test of Belief Updating and Desirability Bias."

**Notice of IRB Review and
Determination - Initial
Review Exempt Review
Category 2; as per Title 45
CFR Part 46**

In accordance with your request, the PSU Research Integrity office, on behalf of the IRB (Human Subjects Research Review Committee), has reviewed and approved your protocol for compliance with PSU policies and DHHS regulations covering the protection of human subjects. Research Integrity has determined your protocol qualifies for exempt review and is satisfied that your provisions for protecting the rights and welfare of all subjects participating in the research are adequate. Please note the following requirements:

Approval: You are approved to conduct this research study after receipt of this approval letter, and the research must be conducted according to the plans and protocol submitted (approved copy enclosed).

Consent: You must use IRB-approved consent materials with study participants. Signed consent is waived.

Changes to Protocol: Any changes in the proposed study, whether to procedures, survey instruments, consent forms or cover letters, must be outlined and submitted to Research

Integrity immediately. The proposed changes cannot be implemented before they have been reviewed and approved by Research Integrity.

Adverse Reactions and/or Unanticipated Problems: If any adverse reactions or unanticipated problems occur as a result of this study, you are required to notify Research Integrity office within 5 days of the event. If the issue is serious, approval may be withdrawn pending an investigation by the IRB.

Completion of Study: Please notify Research Integrity as soon as your research has been completed. Study records, including protocols and signed consent forms for each participant, must be kept by the investigator in a secure location for three years following completion of the study (or per any requirements specified by the project's funding agency).

If you have questions or concerns, please contact the Research Integrity office in Research & Strategic Partnerships at hsrrc@pdx.edu or call 503-725-2227.