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Effects of Value Reasoning on Stigmatization of People with Schizophrenia

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A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Psychology

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Abstract

Effective interventions are much needed to reduce stigma against those with mental illness. Two experimental studies were conducted to examine the effectiveness of value-based reasoning interventions in reducing mental illness stigma, and the extent to which relationships between values and social distance are mediated by attitudes and subjective norms. In study 1, writing about reasons related to values was found ineffective in influencing responses to a hypothetical person with schizophrenia. In study 2, there was some evidence suggesting that considering why self-transcendence values are more important than self-enhancement values led to more positive attitudes towards behaviors reflecting less social distance toward the person. In both studies, priorities placed on self-transcendence and self-enhancement values were found related to social distance, and this relationship was mediated by attitudes towards behaviors. These findings provided the first evidence regarding the mechanisms by which values influence behavioral intentions in the context of mental illness stigma.

Keywords

Stigma, Schizophrenia, Value priorities, Attitudes, Behavioral intentions, Perceived norms

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Chapter 1

1 Introduction

Those with serious mental illnesses are often perceived by the public as being incompetent, unpredictable, and dangerous (Corrigan, 2004; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999). Such negative beliefs are widely held, and they seem to reflect automatic associations with serious mental illnesses such as schizophrenia and are, therefore, often described as stereotypes. These stereotypes are associated with negative evaluations of and, frequently, a preference for greater social distance toward those with such illness. This in turn results in discriminations such as reduced opportunities with respect to employment, housing, and health care for those with serious mental illnesses (Corrigan, 2004). This combination of negative beliefs, attitudes, and behavioral responses has come to be referred to as the stigma of mental illness (Corrigan, 2004, 2005).

Recognition of such stigma can discourage those with mental illnesses from seeking the treatment that they need, which could lead to further exacerbation of illness and deterioration of life circumstances and compromise chances of recovery (Corrigan, 2005). Moreover, when people with mental illnesses internalize these negative stereotypes and attitudes about individuals with their illness, they develop self-stigma and suffer from decreased self-esteem, self-efficacy, and well-being (Rüsch, Angermeyer, & Corrigan, 2005).

Researchers and activists have spent considerable time identifying and advocating against such stigma. Despite their efforts, mental illness stigma, particularly as related to severe illnesses such as schizophrenia, has not decreased (Pescosolido et al., 2010; Siltan, Flannelly, Milstein, & Vaaler, 2011). Given the prevalence of stigma and its detrimental effects on people with mental illness, the development of effective interventions for improving reactions to those with mental illness has been identified as a priority for research and public policy (Satcher, 2000). The two types of intervention that have been used most extensively are educational programs, designed to provide information about

mental illnesses in order to change negative stereotypes, and contact, which involves in-person or video-based contact with people with mental illnesses (Corrigan, Morris, Michaels, Rafacz, & Rüsç, 2012; Pinfold et al., 2003). It has been noted that many of the efforts to reduce the stigma of mental illness have not had a strong empirical or conceptual justification (Pinto-Foltz & Logsdon, 2009). One goal of the current studies was to identify a novel intervention to reduce mental illness stigma that was derived from relevant social psychology theories, and to empirically test its effectiveness.

As noted earlier, mental illness stigma is often described as a sequence of stereotypes, prejudice, and discrimination towards those with mental illnesses. Research in other domains of intergroup relations has suggested that prejudice and discrimination do not always occur, despite people's exposure to negative stereotypes of a group. Instead, factors such as motivation to inhibit automatically activated stereotypes and to respond without prejudice can influence people's behaviors and self-reported attitudes towards members of stigmatized groups (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Devine, 1989). Similarly, research on mental illness stigma has found stereotypic beliefs of people with mental illnesses to predict only a moderate amount of variation in behavioral intentions towards these people (Norman, Sorrentino, Windell, & Manchanda, 2008).

If stereotypic beliefs of people with mental illness are not the sole contributor to the stigmatizing attitudes and behaviors towards them, what could be other factors involved in this process? What could influence a person's attitudes and behaviors towards those with mental illness, even when he or she is exposed to the prevalent negative stereotypes of them? One substantial influence on individuals' attitudes and behaviors towards various targets, including stigmatized groups and their members, is personal values (Kuntz, Davidov, Schwartz, & Schmidt, 2015; Maio, Olson, Bernard, & Luke, 2001; Norman, Sorrentino, Gawronski, et al., 2010; Rokeach, 1971; Schwartz, 1992). The following section reviews past research on how values, attitudes, and behaviors relate to one another, how value-related manipulations influence attitudes and behaviors, and how these findings might have implications for stigma reduction.

1.1 What Are Values?

Values are abstract beliefs and ideals which are pivotal to one's self-concept and which can guide attitudes and behavioral responses across different situations (e.g., Katz, 1960; Maio et al., 2003; Olson & Zanna, 1993). Rokeach (1968, 1971) suggested that values are fundamental determinants of attitudes and behaviors, and that while attitudes refer to groups of beliefs about specific entities, values reflect desirable goals or "end states of existence" and can have strong motivational properties.

Perhaps one of the most widely utilized contemporary models of personal values is that developed by Shalom Schwartz and colleagues (Schwartz & Bilsky, 1990; Schwartz, 1992; Schwartz et al., 2012). Drawing on previous value theories (e.g., Kluckhohn, 1951; Rokeach, 1973), Schwartz conceptualized values as expressing motivations, particularly those related to three basic requirements of human existence—needs for surviving as biological organisms, needs for having coordinated social interactions, and needs for promoting group welfare and functioning. Based on these three motivations, Schwartz identified ten specific values, each expressing a distinct motive. These ten specific values are self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism. Using samples from over 40 countries, Schwartz and colleagues have mapped out the correlations among endorsement of different values, and suggested that the values form a circumplex structure (Figure 1). They postulate that adjacent values are more compatible with each other and those on opposite sides of the circumplex are usually in conflict. Therefore, people who rate a value as important will rate its neighboring values as similarly important but those on opposite side of the structure as relatively unimportant.

Schwartz also proposed that all these values fall on two orthogonal higher-order dimensions: one dimension contrasts self-enhancement with self-transcendence and the other opposes conservation to openness to change. The former dimension reflects the extent to which an individual places importance on pursuing personal success and dominance over others (self-enhancement) versus acceptance of and concerns for others (self-transcendence). The second dimension reflects the extent to which an individual places importance on self-restriction, stability, and traditions (conservation) versus

having independent thoughts and actions and welcoming changes (openness to change). The ten values previously described fall along these axes: self-enhancement values are made up of achievement and power, whereas self-transcendence values are composed of universalism and benevolence; conservation values are constituted of security, conformity, and tradition, whereas openness to change values comprise self-direction, stimulation, and hedonism.

1.2 Values, Attitudes, and Behaviors: the Theory of Planned Behavior and the Expectancy-Value Model

How do abstract values translate into more concrete expressions in specific attitudes and behaviors? The theory of planned behavior (Ajzen, 1985, 1991), which accounts for the relationship between attitudes and behavior, and Norman Feather's expectancy-value model (Feather & Newton, 1982; Feather, 1990, 1992), which considers how values influence behavioral intention through attitudes, could provide some insights into the underlying structure of the value-attitude-behavior relationship.

The theory of planned behavior (Ajzen, 1985, 1991) is a widely adopted theory for explaining the attitude-behavior relationship, and in predicting various behaviors. The theory postulates that attitudes towards a behavior, subjective norms towards the behavior, and perception of how much control one has in successfully carrying out the behavior jointly determine one's intention to engage in this behavior. Behavioral intentions, together with perceived behavioral control, in turn determine the actual behavior. See Figure 2 for an illustration of the theory of planned behavior. The theory of planned behavior has received much empirical support for its ability to predict various behaviors, such as cheating on a test, lying, and shoplifting (Beck & Ajzen, 1991), health-related behaviors (Godin & Kok, 1996), aggression (Finigan-Carr, Cheng, Gielen, Haynie, & Simons-Morton, 2015), and learning behaviors (Cheon, Lee, Crooks, & Song, 2012). According to this theory, the primary determinants of behavioral intentions and actual behaviors are attitudes towards the behavior and perceptions of relevant norms.

Norman Feather's expectancy-value model (Feather & Newton, 1982; Feather, 1990, 1992) suggested that because values are essentially expressing motivations, the

relationship between values and attitudes and behavioral intentions could be explained by the expectancy-value theory of motivation (e.g., Atkinson, 1964). The expectancy-value theory postulated that people's intention to engage in a specific action depends on (1) their expectations of whether a specific action would achieve the desired outcome; and (2) the valences they attach towards the outcome. Feather suggested that the valences that people attach to potential outcomes would be influenced by personal values: outcomes consistent with one's prioritized motives and values would receive positive cognitive and affective appraisal, and thus be seen as desirable; outcomes that are counter to one's prioritized values would be seen as undesirable. Therefore, Feather concluded that values would influence people's perceived valences of an outcome, which in combination with the expectancies to achieve the outcome, would determine their behavioral intentions.

In two studies reported in Feather and Newton (1982), the authors found that people's values priorities, measured by the Rokeach Value Survey (Rokeach, 1973), were systematically related to their attitudes towards two fabricated organizations (i.e., a "Movement" and a "Campaign"). The "Movement" was described in a pamphlet as advocating "hard work, responsible citizenship, discipline, respect for authority, defense of family life", etc. In comparison, the "Campaign" was described as advocating "defense of individual liberty, equality, international peace, open minded thought, creative individual initiative", etc. It was found that salvation and obedience were positively, and broadminded and imaginative negatively, related to positive attitudes towards the "Movement"; freedom, equality, independent, and broadminded were positively related to positive attitudes towards the "Campaign". Participants' attitudes towards the events could be seen as being determined by the perceived valences attached to the outcome- the successful launch of these events. Participants' attitudes towards these two entities then predicted their willingness to volunteer to help promote the events. Furthermore, participants' expectation of how their involvement could actually help the events to be successful added significantly to the prediction of their willingness to volunteer, over and above the influence of attitudes towards these two events.

In a more recent study, Feather, Woodyatt, and McKee, (2012) found that people's priorities concerning self-enhancement values and self-transcendence values, as

measured by the Schwartz Value Survey (Schwartz, 1992), predicted their willingness to carry out supportive actions to a hypothetical organization that putatively strives to repair social damages done to Indigenous Australians. Using a path analysis, the authors found that the link between value priority and willingness to support the organization was mediated by emotions elicited by the issue and the expected outcome of participants' contribution. This study, together with the two studies by Feather and Newton (1982) previously described, provides empirical support for Feather's expectancy-value model in which values influence behavioral intention through the mediation of attitudes towards the outcome and expectancies of the outcome.

The theory of planned behavior and Feather's expectancy-value model could be combined to provide a more integrated view of how values, attitudes, and behaviors form hierarchical links. The theory of planned behavior defines attitudes towards a behavior as being determined by both beliefs about the desirability of the behavioral outcome and beliefs about the strength of association between the behavior and the outcome (i.e., how likely the behavior will lead to the outcome) (Ajzen, 1985, 1991). Beliefs about the desirability of the behavioral outcome could be seen as the perceived valences of the outcome, and the beliefs about the strength of association between the behavior and outcome could be seen as the expectancies of the outcome. Therefore, determinants of attitudes towards behaviors, as defined in the theory of planned behavior, would be consistent with Feather's value-expectancy model. Through influencing attitudes towards behaviors, personal values and expectancy of the outcome would exert an impact on people's behavioral intentions, which would ultimately determine actual behaviors. In addition to attitudes towards a behavior, following the theory of planned behavior, perceived behavioral control should also exert an influence on actual behavior both directly and indirectly through its influence on behavioral intention. Perceived norms would also add to the prediction of behavioral intentions in addition to attitudes towards the behavior and perceived behavioral control. See Figure 3 for an illustration.

There is empirical evidence supporting the hierarchical links among values, attitudes, and behaviors. Homer and Kahle (1988), for example, found evidence that values influenced behaviors through their impact on attitudes. Using multivariate and structural equation

analyses, Homer and Kahle found that people's values influences their attitudes towards natural food, which, in turn, led to different shopping behaviors with respect to natural food. These hierarchical links among values, attitudes, and behaviors have been repeatedly found in research domains such as environmental behaviors (e.g., Milfont, Duckitt, & Wagner, 2010) and consumer behaviors (e.g., Cai & Shannon, 2012) across different cultures. Moreover, some evidence has linked values and attitudes with behavioral intention (e.g., Kang, Jun, & Arendt, 2015; Vaske & Donnelly, 1999), and supported the notion that values and subsequent attitudes guide actual behaviors through exerting impact on behavioral intentions (e.g., Cai & Shannon, 2012). Thus, it seems that values would influence people's attitudes towards behaviors, which would influence their intentions to engage in such behaviors, which would ultimately lead to actual behaviors.

1.3 Values and Stigmatization of Mental Illnesses

Does the value-attitude-behavior link operate in the context of mental illness stigma? Do values have any influence on attitudinal and behavioral responses to those with serious mental illness? The self-enhancement versus self-transcendence value dimension is of particular interest in this context because this dimension is postulated to be particularly related to people's goals during social interactions and how they behave when interacting with others (Schwartz, 2010). During social interactions, a person who prioritizes self-enhancement values would focus mostly on advancing his or her own interests, whereas someone who prioritizes self-transcendence values would focus more on the welfare of others. Studies have found self-transcendence values to be positively related to cooperation in money allocation tasks (Schwartz, 1996), helping behaviors (Daniel, Bilgin, Brezina, Strohmeier, & Vainre, 2014), willingness to make up for past social wrongs (Feather, Woodyatt, & McKee, 2012), and environmentally responsible purchases (Follows & Jobber, 2000). Self-enhancement values, however, were found to relate negatively to these behaviors.

When value priorities are examined in relation to the stigma of mental illness, studies have found self-transcendence values related to less stigmatizing attitudes and behaviors towards people with mental illness and those with drug addictions (Norman, Sorrentino, Windell, & Manchanda, 2008b; Norman, Sorrentino, Gawronski, et al., 2010; Skinner,

Feather, Freeman, & Roche, 2007). Self-enhancement values have been found related to more negative responses towards these groups. The conservation versus openness to change dimension has generally been found less related or unrelated to stigma of mental illness: the value of openness to change and the value of conservation were found not significantly correlated with people's attitudes or behaviors towards those with mental illness (Norman et al. 2008b; Norman et al. 2010).

Why would people with high self-enhancement values show more stigmatizing attitudes and behaviors towards those with mental illnesses than those with high self-transcendence values? People who prioritize self-enhancement values have been found to only identify with a group when they perceived that group as having high status (e.g. "prestigious"; "successful"). No such pattern was found for those who prioritize self-transcendence values (Roccas, 2003). These findings confirmed Schwartz's (1992) suggestion that people high on self-enhancement, not self-transcendence, values primarily care about enhancing their own interests during social interactions. People high on self-enhancement values, thus, might perceive social interacting with those with serious mental illness as unhelpful or even hindering to furthering their interests such as social prestige, and therefore display greater social distance towards such people.

Findings with respect to Social Dominance Orientation (SDO) could offer some additional support to the link between self-enhancement values and stigmatization. SDO is defined as an individual difference pertaining to general attitudes towards out-groups. People with high SDO like to see their in-group as being superior to out-groups and prefer to maintain or even increase social inequality, compared to people low on SDO (Pratto, Sidanius, Stallworth, & Malle, 1994). SDO, therefore, is related to higher prejudice and discrimination towards out-groups, especially those with low social status such as people suffering from mental illnesses (Ottati, Bodenhausen, & Newman, 2005). Power, a sub-value of self-enhancement values, has been found positively related to both SDO and Modern Racism (Feather & McKee, 2008). The positive correlation between the value of power and SDO suggests that people with high self-enhancement values might also favor social inequality and therefore prefer to maintain such social hierarchy

by avoiding social connections with a low-status out-group such as those with mental illness.

In contrast to self-enhancement values and SDO, the characteristic of Egalitarianism/Humanitarianism is universally related to decreased prejudice and discriminations towards any out-groups (Biernat, Vescio, Theno, & Crandall, 1996), and it appears similar to the value of universalism as conceptualized in Schwartz's (1992) model. Universalism, falling under the self-transcendence domain, expresses the motivational goal of tolerance and broad-mindedness towards others, even if they are different or when they are unable to support one's own personal advancement. Self-transcendence values therefore should be negatively related to stigma towards mental illnesses. In addition to universalism, benevolence, another sub-value of self-transcendence values, could also motivate people to display less stigmatizing attitudes and behaviors. Benevolence expresses the goal of promoting in-group welfare and facilitating positive social interactions with other in-group members, which might motivate people to act in a helpful way towards those in need, especially when those in need are perceived as one's in-group members (Levine, Prosser, Evans, & Reicher, 2005; Pratto et al., 1994). Therefore, people with high self-transcendence values might perceive those with mental illnesses as in need of help and show helpful attitudes and behaviors towards them instead of being rejecting, especially if those with mental illness are perceived as in-group members.

Although it is evident that self-enhancement values and self-transcendence values are systematically related to stigmatizing attitudes and behaviors, the value-attitude-behavior hierarchy as previously described has not been studied in the context of stigmatization of mental illness. In line with the model delineated in Figure 3, it is expected that the relation between self-enhancement/transcendence values and stigmatizing behaviors towards individuals with mental illnesses would be mediated by attitudes towards behaviors towards those with mental illnesses.

1.3.1 Perceived Norms: a Potential Mediator of the Value-Stigma Link

As previously mentioned, subjective norms were identified by the theory of planned behavior (Ajzen, 1985, 1991) as a predictor of behaviors in addition to attitudes towards behaviors. Subjective norms are an individual's perceived expectations, especially from those who are important to this person, with regard to engaging in behaviors (Ajzen, 1991). People tend to carry out actions that important others support or approve of, and refrain from behaving in ways that they perceive as not being supported by normative expectations.

In describing the composition of the social normative pressure that people perceive, Cialdini, Kallgren, and Reno (1991) suggested that descriptive norms and injunctive norms are two discriminable, albeit related, social norms. Descriptive norms refer to perceptions of what other people would likely do in a social situation, whereas injunctive norms refer to perceptions of whether people would approve or disapprove the relevant behaviors. Subjective norms, as measured by aggregating subjective injunctive and descriptive norms, have been found to play an important role in predicting intentions to engage in different social interactions with people with mental illnesses. For example, Norman et al. (2008a) found that subjective norms significantly added to the prediction of behavioral intentions towards people with schizophrenia. The predicted variance in preferred level of social distance increased from 29% to 51% when individuals' subjective norms were entered into a regression equation in addition to their beliefs concerning the illness. Furthermore, Norman et al. (2010) found that both subjective norms and the attitudes towards behaviors added significantly to the prediction of behavioral intention. Together, subjective norms and attitudes towards behaviors accounted for 58% to 62% of total variance of participants' intentions to carry out different behaviors that involve a person with schizophrenia.

In addition to perceptions of social norms, perceived moral obligation could also be important in predicting behavioral intentions (Ajzen, 1991). It was found that including moral norms, or how morally obligated one feels to behave or to not behave in a certain way, improved the prediction of both behavioral intentions and actual behaviors related

to moral issues, such as shoplifting, cheating, and lying (Beck & Ajzen, 1991). A more recent meta-analysis found that including moral norms increases the variance explained for behavioral intentions by 3% on average, especially when the behaviors have a moral dimension, that is, the behaviors have potential impact on others' welfare (Rivis, Sheeran, & Armitage, 2009). Stigmatization against those with mental illnesses could be considered as having a moral dimension, because discriminatory behaviors such as social exclusion and deprivation of equal opportunities can have considerable negative impact on these people's welfare. It is, therefore, reasonable to take into consideration moral norms, together with injunctive and descriptive norms, in predicting stigmatizing behaviors towards those with mental illnesses.

There is a scarcity of research on how values and perceived norms are inter-related. Because people's value priorities and perceived social norms are both shaped by the culture and society that they are a part of (Schwartz, 1992; Sherif, 1936), it is possible that people, who develop certain value priorities as a result of cultural socialization, would expect others in their reference group to share their values. This would result in significant correlations between perceived social norms and personal value priorities. Perceived norms could, therefore, potentially serve as a mediator between values and stigmatizing behaviors towards mental illnesses. Specifically, because self-transcendence values concern others' welfare, priorities placed on self-transcendence values may influence people's moral considerations in relevant situations (Schwartz, 2010) and thus influence people's behavioral responses through moral norms. Some evidence has provided support for the mediating role of perceived norms for the relationship between values and behaviors. For example, Nordlund & Garvill (2002) found that personal norms served as a mediator of the relationship between self-transcendence and environmental values and pro-environmental behaviors. Alternatively, personal values could certainly differ from perceptions of normative expectations, and predict behavioral intentions and actual behaviors towards those with mental illnesses incrementally to perceived norms.

1.3.2 Self-Monitoring: a Potential Moderator of the Value-Stigma Link

Perceived norms can influence people's behaviors, but there appear to be individual differences in the extent to which people are influenced by such perceptions. Of particular importance in this respect is the characteristic referred to as self-monitoring (Gangestad & Snyder, 2000; Meliema & Bassili, 1995; Snyder & Gangestad, 1986). Self-monitoring refers to people's propensity to control their behaviors and to present themselves in a desirable way to others. Individuals high in self-monitoring tendency are more responsive to situational cues for appropriate behaviors and more likely to regulate their self-presentations to achieve desired public images. In comparison, individuals low in self-monitoring are less inclined to regulate their behaviors in order to gain approval of others. For those people with low self-monitoring tendency, behaviors are more likely to reflect personal dispositions such as attitudes and beliefs, than situational cues for appropriate behaviors (Snyder & Gangestad, 1986).

There is evidence that consistency between values and attitudes is moderated by individual differences in self-monitoring (Meliema & Bassili, 1995; Prislin & Kovrija, 1992). Meliema and Bassili (1995) assessed participants' value endorsements by asking them questions relevant to the values of merit, equality, religiosity, freedom, and respect for authority (e.g., the value of merit- "Do you think that getting ahead in the world is mostly a matter of ability and hard work, or of getting the breaks?"; the value of freedom- "We should be tolerant of groups that do not share basic Canadian values"). Participants' values endorsements were then correlated with their attitudes towards two policy issues- fixed quota for women in order to promote gender equality in workplaces, and censorship for pornographic films. The authors also measured participants' self-monitoring, and tested whether self-monitoring moderated the strength of the value-attitude relationship. The values of equality and freedom significantly predicted participants' attitudes towards fixed quota for female employees, and the relationships were significantly stronger for low self-monitors than high self-monitors. Similarly, the values of freedom, religiosity, and authority significantly added to the prediction of participants' attitudes towards banning pornographic films for low self-monitors, whereas only the value of freedom

was related to high self-monitors' attitudes on this issue. The authors therefore concluded that personal values predicted people's attitudes better for low self-monitors than high self-monitors.

In addition to moderating the strength of the value-attitude relationship, self-monitoring also moderates the extent to which people's behavioral intentions are predicted by their attitudes and norms. Prislin and Kovrlija (1992), for example, measured university students' attitudes, subjective norms, and perceived control with respect to attending every lecture at the beginning of a school year. Students' self-monitoring tendency and behavioral intentions towards full attendance were also measured. It was found that attitudes predicted behavioral intentions for low self-monitors, whereas subjective norms predicted behavioral intentions for high self-monitors.

Given these previous findings, it is reasonable to anticipate that people with different self-monitoring will vary in how much their behavioral intentions towards those with serious mental illness are related to their values, attitudes, and perceived norms. More specifically, low self-monitors, compared to high self-monitors, should display a stronger relationship between their self-transcendence/enhancement values and attitudes towards behaviors involving those with mental illnesses. In addition, perceived social norms should predict behavioral intentions towards those with mental illnesses better for high self-monitors, whereas attitudes should predict behavioral intentions better for low self-monitors.

1.4 Value-Based Manipulations in Influencing Attitudes and Behaviors

Considering that value priorities, specifically with reference to self-transcendence and self-enhancement values, are related to stigmatizing attitudes and behaviors towards those with mental illness, can a value-based intervention be devised to improve responses to these individuals? Value-based manipulations implemented by past researchers commonly addressed one or more of the following three aspects: value priorities, value accessibility, and cognitive support of values. The following section reviews how value-based experimental manipulations that focused on each of the aforementioned aspects

exert an impact on subsequent attitudes and behaviors. This review provides the background for identifying the value-based manipulations that were tested in the studies described in this thesis.

1.4.1 Value Priority

Values are motivational, and prioritized values imply stronger motivations to pursue some end goals than others. One's attitudes and behaviors are likely to be consistent with the more prioritized values (Schwartz, 1992). Interventions that aim to induce desired attitudes and behaviors by changing people's value priorities have been examined for their effectiveness in past research.

The value-confrontation technique used by Rokeach (1971) was an example of an intervention designed to change value priorities. Rokeach tried to change participants' value priorities by giving them fabricated feedback about values that students in their university prioritized, while framing these putative findings in a negative way (e.g., "...students are more interested in their own freedom than freedom for other people.."). This procedure was intended to create personal dissatisfaction with participants' current priorities. Compared to a control condition, the self-confrontation technique did successfully induce higher self-reported importance of equality even months after the manipulation. The intervention also led to more positive attitudes towards equal rights for black people and more engagement in a movement that promoted their civil rights and greater willingness to support a civil rights organization. Past research has found evidence in support of the effectiveness of Rokeach's value self-confrontation technique in inducing attitude and behavioral change in several different domains (Greenstein, 1976; Rokeach & Cochkan, 1972; Schwartz & Inbar-Saban, 1988).

In a more recent study, Maio et al. (2009) used a similar technique to change people's self-reported value priorities. The researchers provided fabricated information on the value priorities endorsed by participants' fellow students, and asked the participants to compare their own values to these endorsed values. Four manipulation conditions were implemented, each with respect to one of four higher-order values identified by Schwartz (1992): self-transcendence, self-enhancement, openness to change, and conservation. In

contrast to Rokeach (1971), Maio et al. framed the values that were allegedly endorsed by university students in a positive way. The results showed that participants in each condition changed their value priority in direction of the approved values and reduced the priority of opposing values. However, Maio et al. did not test whether such changes in self-reported value priorities led to any differences in subsequent attitudes and behaviors.

1.4.2 Value Accessibility

In addition to the importance attributed to a value, the likelihood of a value influencing attitudes and behaviors is likely a function of how mentally accessible it is in a situation (Feather, 1990; Schwartz, 2010; Verplanken & Holland, 2002). Values are abstract beliefs that are part of one's knowledge structure. They can exert impact on attitudes and behaviors only when they can be accessed mentally (Feather, 1990; Verplanken & Holland, 2002). One way to make a value accessible and to facilitate value-consistent attitudes and behaviors is through priming (Dreezens, Martijn, Tenbült, Kok, & de Vries, 2008; Macrae & Johnston, 1998; Maio, Pakizeh, Cheung, & Rees, 2009; Verplanken & Holland, 2002). Priming refers to influencing responses by antecedent activation of particular representations or associations through exposure to a stimulus.

There is evidence that mere exposure to concepts related to a value, even at the unconscious level, can make people more likely to act in a fashion consistent with that value. For example, Macrae and Johnston (1998) primed participants for the value of helpfulness by asking them to rearrange scrambled words into meaningful sentences. Words related to the construct "helpfulness" (e.g., helped, assistance, aided, supported, provided, etc.) were used in the experimental condition (e.g., she, luggage, revise, him, help) but not in the control condition (e.g., grew, savings, waltz, her, rapidly). Even though participants were not explicitly asked to think about the value "helpfulness", those primed with "helpfulness" related words were more likely to pick up a dropped pen for the experimenter than were individuals who were not primed. Similarly, Verplanken and Holland (2002) primed some participants for values related to the environment by asking them to form an impression of a hypothetical person who adheres to these values such as preserving nature and caring for future generations. The rest of the participants, who were in the control condition, were asked to form an impression of a person adhering to values

that are not related to the environment, such as perfectionism and enjoying the good things of life. Participants in the priming condition put more weight on the environmental aspects of a product in a subsequent consumer choice task than those in the control condition.

1.4.3 Cognitive Support for Values

Values are often widely shared and unchallenged. This means that they may be perceived as important while receiving little cognitive support or justification. As a result of the lack of cognitive support for their prioritized values, people sometimes fail to act in line with these values. Maio and colleagues (Maio & Olson, 1998) discussed such discrepancies and suggested that people often do not act on their values because values can function as “truisms”. They postulated that people may have little cognitive justification or support for the importance attributed to specific values, and this compromises the impact of values on behaviors, particularly when there are incentives to behave inconsistently with the value.

Maio, Olson, Allen, and Bernard (2001) found that asking people to consciously think about rationales or justifications related to the importance of values could increase value-consistent behavior. In one study, Maio, Olson, Allen, et al. (2001) found that contemplating reasons related to the value of equality led to less in-group favoritism and more egalitarian behaviors in a subsequent point-allocating task, compared to priming of the value using a thematic anagram solving task. In a second study, the authors found that contemplating reasons related to the value of helpfulness led participants to volunteer more time for a hypothetical future study, compared to being asked to rate one’s feeling about this value. The self-reported importance of the promoted values did not differ between participants who were primed with the values and those who were instructed to consider reasons related to the values, suggesting that the effect of the manipulation on subsequent behaviors was not through changes in value priorities. Maio et al. concluded that thinking about reasons related to a value provides concrete cognitive support for acting consistently with it, which decreases the chance that the value functions only as a “truism”, and thus encourages people to subsequently behave more consistently with this value.

In expanding findings from Maio, Olson, Allen, et al. (2001), Karremans (2007) found that thinking about reasons related to a value increases not only behaviors consistent with the target value, but also behaviors consistent with other values expressing similar motives. For example, Karreman found that thinking about reasons related to both the value of equality, and the value of helpfulness, which expresses a similar motivation to the value of equality (i.e., to be concerned of others' welfare), led to more egalitarian behaviors in a point-allocating task than the control condition. Moreover, participants who thought about reasons related to the value of helpfulness showed more egalitarian behaviors than those who were merely primed with the value in an anagram task. Karreman's finding provided additional empirical support for the "value-as-truism" notion and the effectiveness of developing cognitive support for a value in facilitating value-consistent behaviors.

1.4.4 Individual Differences in Sensitivity to Value-Based Manipulations

People with varying pre-existing value priorities may react differently to the same value-based manipulation. Depending on their pre-existing value priorities, people might view the value being promoted by a manipulation as more or less desirable. Consistent with Feather's (1990) expectancy-value model, if the value activated and promoted in the manipulation is irrelevant to or even in conflict with their prioritized values, people could perceive the promoted action as bearing little positive valence and therefore unattractive. Therefore, people might be less responsive to value-based manipulations if the activated value is in conflict with or irrelevant to their prioritized values.

For example, Verplanken and Holland (2002) found that after values related to concerns about the environment were primed, only participants to whom the environmental values were important to their self-concept sought out more environment-related information concerning a product, and sequentially made more environmentally friendly consumer choices. Participants to whom the environmental values were not initially important to their self-concept neither paid more attention to environmentally related information of products nor made more environmentally friendly choices after being primed.

It is therefore expected that if an individual has a high pre-existing priority for the value promoted in the value-based manipulation, he or she would be more likely to display attitudes and behaviors consistent with the promoted value. In comparison, those for whom the value being promoted does not have initially high priority would not be as responsive to the manipulation, and would display attitudes and behaviors that are less consistent with the promoted value.

1.5 Current Studies

The primary goal of the research described in this thesis was to examine if a value-based manipulation could influence responses to those with serious mental illness, and provide the basis for an effective intervention to reduce mental illness stigma. The manipulation used in the current studies was modified from techniques used by Maio and colleagues (e.g., Maio, Olson, Allen, et al., 2001) to increase cognitive support for a value as reviewed in the last section. Specifically, participants were asked to contemplate reasons related to certain values, so that the values are both more mentally accessible and have greater cognitive support in order to facilitate subsequent value-consistent attitudes and behaviors.

There are mainly two reasons for adopting a manipulation that focuses on changing value accessibility and cognitive support rather than focusing on changing value priorities. First, manipulations related to value accessibility and cognitive support have been more widely used and have generated more empirical support in their effectiveness. In comparison, manipulations targeted at changing value priorities, such as the self-confrontation technique, have not been used in research as often, particularly in recent years. Second, because self-transcendence values are already a very important value to many, trying to further increase its importance might be less relevant and effective than manipulations addressing accessibility and cognitive support.

In addition to testing the effectiveness of the value-based intervention, the studies also assessed the extent to which participants' attitudes and perceived norms towards the behaviors mediate the value-behavioral intention link. The methods used will allow us to address the latter issue both with respect to any impact of the manipulation and with

respect to naturally occurring relationships between values, attitudes, norms and behavioral intentions. The potential moderating role of self-monitoring was also examined.

Chapter 2

2 Study One

The methods used in this study were closely modeled after the procedures used by Maio, Olson, Allen, et al. (2001). In this study, participants wrote about reasons related to either self-transcendence values (in the Self-Transcendence condition) or self-enhancement values (in the Self-Enhancement condition), or (in the control condition) described their daily routine. Their attitudes towards a person described in a vignette as being diagnosed with schizophrenia, attitudes towards behaviors involving this person, and their behavioral intentions were measured. Participants' value priorities, self-monitoring, and their perceptions of norms towards behaviors involving the person in the vignette were also measured.

2.1 Hypotheses

The hypotheses in this study were as follows:

H1. The Self-Transcendence condition will lead to the most positive attitudes towards the person in vignette, attitudes towards behaviors with respect to this person, and behavioral intentions among the three conditions, followed by the control condition, and the Self-Enhancement condition will lead to the least positive attitudes towards the person, attitudes towards behaviors, and behavioral intentions among the three conditions;

H2. Participants' pre-existing value priorities will interact with manipulation conditions in influencing their stigmatizing attitudes and behaviors: a higher initial self-transcendence value priority would be associated with greater effect of the Self-Transcendence condition, and a higher initial self-enhancement value priority will be associated with greater effect of the Self-Enhancement condition;

H3. The effect of the manipulation conditions on behavioral intentions will be mediated by attitudes towards behaviors and perceived norms with reference to the behaviors;

H4. The self-reported priority placed on self-transcendence values will be related to more positive attitudes towards the person in vignette, attitudes towards behaviors involving this person, and behavioral intentions; and the self-reported priority placed on self-enhancement values will be related to more negative attitudes towards the person, attitudes towards behaviors, and behavioral intentions;

H5. The relationship between value priorities and behavioral intentions will be mediated by attitudes towards behaviors and perceived norms towards the behaviors;

H6. Lower self-monitoring will be associated with stronger relationship between value priorities and attitudes towards behaviors, stronger relationship between attitudes towards behaviors and behavioral intentions, and weaker relationship between perceived norms and behavioral intentions.

2.2 Method

2.2.1 Participants

A total number of 180 participants were recruited. Participants completed this study through the online platform Amazon's Mechanical Turks (MTurk). Procedures were administered, and completed through Qualtrics.com. Among the 180 participants who took part in the study, 50 were excluded for providing invalid answers for the value activation manipulation (i.e., clearly off topic or nonsense answers) or spending less than 20 seconds reading the 300-word vignette, which was judged to indicate a lack of attention. The remaining participants ($N=130$) included 70 females and 60 males. The age of the participants ranged from 19 to 77, with a mean age of 37 ($SD=13.4$). Among these 130 participants, 120 reported to speak English as their first language; 9 reported that English is not their first language; one participant did not provide response to this question.

2.2.2 Procedure

Participants were told that they were taking part in two separate studies, the first one being a reasoning task and the second an investigation of how impressions of others are formed. These two supposedly separate studies were actually one study, and the deception procedure was used to decrease the likelihood that participants would infer the

connection between the value manipulation and their subsequent responses to the vignette.

Participants first filled out the pre-manipulation measure of value priorities, and were then randomly assigned to one of the three value-related manipulation conditions (Self-Enhancement vs. Self-Transcendence vs. Control), followed by a post-manipulation measure of value priorities. Participants were then told that they would take part in a different, second study. In this part of the protocol, they first read a vignette of a person who was diagnosed with schizophrenia and who is currently in recovery. Participants then rated their attitudes towards this person, attitudes towards varying behaviors reflecting preferred social distance with respect to this person, and their perception of norms regarding these behaviors. Participants' self-monitoring was then assessed, followed by a measure of their intention to engage in the behaviors previously described. At the end, participants were asked about questions related to demographic characteristics (i.e., sex, age, and whether English is their first language) and suspicions regarding there being a relationship between these two allegedly independent studies. They were then debriefed and redirected to MTurk where they received compensation of 75 cents for their participation.

2.2.3 Materials

Pre-manipulation value priority measure

The pre-manipulation value importance measure was derived on the basis of measures used in Maio et al. (2009) and Norman, Sorrentino, Gawronski, et al. (2010). Participants were given a list of 16 values, with 4 covering each of the four higher-order categories (i.e., Self-enhancement; Self-transcendence; Conservation; Openness to Change), and were asked to rate how much each value acts as a “guiding principle in my life” on a scale of 0 (“opposed to my principle”) to 8 (“of supreme importance”). See Appendix C for the pre- and post-manipulation measure of value priority.

Value-based manipulation

In all three conditions, participants were told that the study was a survey of the value system and reasoning processes of adults. They were told that the computer would randomly choose a topic from a database for them to write about, and that they would be given 8 minutes for their writing task. Participants were encouraged to write as much as possible by using abstract reasoning or/and examples. In both the Self-Transcendence and the Self-Enhancement conditions, participants were given examples of how each value could be supported or opposed in reasoning. In the control condition, participants were simply instructed to describe what they would usually do in a typical day. See Appendix D for the instructions used in each condition.

Post-manipulation value priority measure

This measure took place for all participants after value activation manipulation. The assessment followed the same format as the pre-manipulation value priority measure, but used 16 specific values items that were different from those used in the pre-manipulation measure (Appendix C).

Vignette for a person with schizophrenia

After being informed that they had completed the first study, participants were told that they would now be participating in the second study on impression formation. They were asked to read a vignette of a person. The vignette was modified from one originally prepared by Angermeyer and colleagues (Angermeyer & Matschinger, 2003, 2004) for population surveys in Germany and subsequently used by Norman et al. (2010). It contains both symptom and recovery information concerning of a person (Alex) diagnosed with schizophrenia. Half of the participants read the vignette in which the person was described as a woman, and the other half read one in which the person was a man. All other information was the same in the two versions of vignette. See Appendix E for the vignette.

Attitude towards person and attitudes towards behaviors

After reading the vignette, participants were asked to rate their attitudes towards Alex on a 7-point scale for four evaluative semantic differential type items (unpleasant-pleasant;

bad-good; nasty-nice; attractive-unattractive) (Appendix F). Then, participants indicated their attitudes towards six different behaviors involving this person. Their attitudes towards each behavior were measured using the same 7-point scale on the four aforementioned evaluative semantic differential items for each one of the six behaviors (Norman et al., 2010) (Appendix G). The six behaviors were: go to party at his/her house; have lunch with Alex; do schoolwork with Alex; trust Alex to take care of your child; be willing to support having your sibling or child marry Alex; and recommend Alex for a job. These six behaviors were adapted from the Bogardus Social Distance Scale (Bogardus, 1925), and have been frequently used in measuring preferred social distance, or stigmatizing behaviors, towards those with mental illness (e.g., Link, 1987; Norman et al., 2008).

Perceived norms

The same questions used by Norman et al. (2008) were utilized to measure participants' subjective norms. To measure subjective descriptive norms, participants were asked to rate from 1("They certainly would") to 7("They certainly would not") how likely people important to them would themselves engage in each one of the six behaviors. To measure their subjective injunctive norms, participants were asked to rate from 1("Very strongly approve") to 7("Very strongly disapprove") to indicate how people important to them would react if they engaged in each one of the six behaviors involving the person in vignette. To measure the moral norms, participants were asked to rate from 1("Very strong obligation") to 7("No obligation at all") to indicate how much morally obligated that they felt that they should engage in each one of the six behaviors with reference to Alex. Participants' perceived norms for each of the six behaviors were measured as the average of the three items for that behavior. See Appendix H for the measure of perceived norms.

Self-monitoring scale

After participants finished the measure of perceived norms, they completed the 18-item Self-Monitoring Scale (Snyder & Gangestad, 1986). The scale consists of 18 statements to each of which participants answer "True" or "False" to reflect the extent to which it is

an accurate description of their behaviors. See Appendix I for the Self-Monitoring Scale. A meta-analysis (Gangestad & Snyder, 2000) showed that there were mainly three latent factors captured in the Self-Monitoring Scale: Acting, or the ability to act in a way suggested by social cues, measured by items such as “I would probably make a good actor”; Extraversion, measured by items such as “In a group of people I am rarely the center of attention (reversely coded)”; and Other-Directedness, or the level of motivation to engage in self-monitoring, measured by items such as “I guess I put on a show to impress or entertain people”.

Behavioral intentions

After completing the above measures, participants indicated their willingness to engage in the six behaviors involving the person in the vignette by rating on a 5-point scale (from “I certainly would” to “I certainly would not”) the likelihood they would engage in each behavior (Appendix J).

2.3 Results

As previously mentioned, 60 participants were excluded from the analyses for paying inadequate attention to the manipulation or the vignette. Although including these participants in the analyses did not significantly change the pattern of the results, they were nonetheless excluded from the analyses in order to achieve more accurate estimations of the effects. 18 participants expressed their suspicion that the “two studies” were related, and that the hypothesis of the study was on how personal values were related to responses to people with mental illness. Excluding these participants from the analyses did not yield significantly different results than when they were included. These participants were therefore included in the analyses reported.

All outcome measures were recoded to generate a positive key, so that a higher score always represents a more positive response. As recommended by Schwartz (1992), a mean rating across all values was calculated for each participant, and the mean was subtracted from each value of the participant to generate a new set of value scores. The

new value scores represented the relative importance that a participant assigned to each value.

To test for internal consistency for the measurement scales used in our study, Cronbach's α was calculated for the attitudes toward the person (AttP) scale, the attitudes towards behaviors (AttB) scale, the behavioral intentions (BI) scale, the self-monitoring scale, and the perceived norms scale. The Cronbach's α was .81 for the AttP scale, .95 for the AttB scale, .84 for the BI scale, .76 for the self-monitoring scale, and .90 for the perceived norms scale. An average score was calculated for each participant on each one of the above scales except for the self-monitoring scale, for which all items were summed up to generate a self-monitoring score for each participant. See Table 1 for means and standard deviations for all the aforementioned variables and their inter-correlations.

2.3.1 Tests of Hypothesis 1 and 2: Effects of the Value-Reasoning Manipulation, and Its Interaction with Pre-Existing Value Priorities

To test effects of the value-reasoning manipulation and its potential interaction with participants' pre-existing priorities on self-transcendence values and self-enhancement values, Univariate Analyses of Variance (ANOVA) were carried out. Three Univariate ANOVA were first conducted on AttP, AttB, and BI, respectively, with the manipulation conditions as the independent variable and the pre-manipulation ratings on self-transcendence values as the covariate. The interaction term for the condition and the pre-manipulation ratings on self-transcendence values was also entered in the model. Another three Univariate ANOVA were then conducted on AttP, AttB, and BI, respectively, with the conditions as the independent variable and the pre-manipulation ratings on self-enhancement values as the covariate. The interaction term for the condition and the pre-manipulation ratings on self-enhancement values was also entered in the model. The pre-manipulation ratings on self-transcendence and self-enhancement values were entered as the covariate in separate tests instead of both being entered as predictors of the dependent variables in the same test, because these two scores tend to have high negative correlations and entering them both in one test could make the results less interpretable.

When the pre-manipulation ratings on self-transcendence value was controlled for as a covariate, the manipulation condition did not have any significant effect on attitudes towards Alex, $F(2,118)=1.33$, $p=.27$, attitudes towards behaviors with respect to Alex, $F(2,114)=.87$, $p=.42$, or behavioral intentions towards Alex, $F(2,116)=.70$, $p=.49$. No significant interaction between the manipulation conditions and pre-manipulation ratings on self-transcendence value was found on AttP, $F(2,118)=1.04$, $p=.38$, AttB, $F(2,114)=1.16$, $p=.32$, or BI, $F(2,116)=2.10$, $p=.13$. Similarly, when the pre-manipulation ratings on self-enhancement value was controlled for as a covariate, the manipulation condition did not have any significant effect on AttP, $F(2,118)=.69$, $p=.50$, AttB, $F(2,114)=1.34$, $p=.27$, or BI, $F(2,116)=.50$, $p=.61$, nor did the interaction between conditions and pre-manipulation ratings on self-enhancement value have any significant effect on AttP, $F(2,118)=.14$, $p=.87$, AttB, $F(2,114)=1.18$, $p=.31$ or BI, $F(2,116)=2.24$, $p=.11$.

To further investigate whether participants' responses vary as a function of their gender and the gender of Alex, and whether there was any interaction between them and with the manipulation conditions, a Univariate ANOVA was conducted on AttP, AttB, and BI, respectively, with the manipulation conditions, participant's gender, the gender of Alex, and all two-way and three-way interactions among them entered as independent variables. The results showed that there was a significant main effect for the gender of Alex on both participants' attitudes towards Alex, $F(1,117)=9.72$, $p=.002$, and their attitudes towards behaviors with respect to Alex, $F(1,113)=4.53$, $p=.036$, but not on their behavioral intention towards Alex, $F(1,115)=2.12$, $p=.15$. Participants showed more positive AttP ($M=4.45$, $SD=1.14$, vs. $M=3.94$, $SD=.89$) and AttB ($M=3.57$, $SD=1.19$, vs. $M=3.24$, $SD=.99$) when Alex was described as a female than a male. For behavioral intention, a significant interaction between participants' gender and the manipulation conditions was found, $F(2,115)=4.11$, $p=.019$. Pair-wise comparisons corrected by Bonferroni showed that female participants in Self-Enhancement condition ($M=3.07$, $SD=.86$) showed significantly more positive behavioral intention towards Alex than female participants in the Self-Transcendence condition ($M=2.43$, $SD=.76$), $p=.029$. Such a pattern was not observed among male participants.

The results suggested that participants' attitudes towards the person described as having schizophrenia in the vignette, their attitudes towards behaviors involving this person, and their preferred social distance measured by their behavioral intentions, did not vary as a function of the value-reasoning manipulation implemented in this study. Participants' pre-existing self-reported priorities on self-transcendence and self-enhancement values did not seem to influence how they responded to the value-based manipulations. Overall, it appears that the data therefore failed to support Hypothesis 1 and Hypothesis 2.

The examination of the effects of participants' gender and the gender of the person described in the vignette suggested that participants tended to have more positive responses, especially on their attitudes towards the person and their attitudes towards behaviors with respect to this person, when this person was a female than male. The implication of the interaction between participants' gender and the manipulation conditions on behavioral intention was less clear: it was not apparent with regard to why the Self-Enhancement condition led to more positive behavioral intention than the Self-Transcendence condition among the female participants but not the male participants, or whether such an effect would replicate.

2.3.2 Test of Hypothesis 3: Attitudes towards Behaviors and Perceived Norms as Mediators for the Effect of the Value-Reasoning Manipulation

To test Hypothesis 3, the SPSS plug-in PROCESS (Hayes, 2013) was used to examine the mediating effects of attitudes towards behavior and perceived norms on the relationship between value priorities and behavioral intention. PROCESS was selected as the analytical tool because it (1) allows the inclusion of more than one mediator, and accounts for the correlations between mediators in calculating mediational effects; (2) quantifies both the direct effect of the predictor variable on the dependent variable and the indirect effect (i.e., mediational effect) with reference to each mediator, (3) utilizes bootstrapping to address issues related to the biased assumption underlying the frequently used Sobel's test of the mediation, and to estimate the confidence intervals for the indirect effects (Hayes, 2012). It is, however, worth noting that because the value-reasoning manipulation was found to have no significant effect on attitudes towards

behaviors, a mediational path between the intervention and behavioral intentions through attitudes towards behaviors should not be expected, according to Baron & Kenny (1986).

The manipulation conditions were entered as the independent variable, behavioral intentions as the dependent variable, and attitudes towards behaviors and perceived norms as two mediators, in PROCESS. 1000 bootstraps were carried out to generate estimates for the indirect, or mediational, effects. The results suggested that the value-based manipulation did not have any significant direct effect on BI, $B=.05$, $SE=.06$, $t(87)=.86$, $p=.39$, nor did it have any significant indirect effect on BI through AttB, $B=-.05$, $SE=.04$, $Z=-1.27$, $p=.20$, or perceived norms, $B=-.03$, $SE=.05$, $Z=-.62$, $p=.54$.

Hypothesis 3 was therefore not supported by the data.¹

2.3.3 Test of Hypothesis 4: Linking Value Priorities, Attitudes, and Behavioral Intentions

In order to examine whether the manipulation changed participants' self-reported priorities on these values, a repeated measure ANOVA was carried out on self-transcendence values and the self-enhancement values, respectively, each with the pre- and post-manipulation ratings as the within-subject, repeated variable, and the manipulation conditions as the between-subject variable. Participants' ratings on self-transcendence values did not change from pre-manipulation to post-manipulation survey as a function of the manipulation conditions, $F(2,120)=1.03$, $p=.36$. Their ratings on self-enhancement values, however, did change from before to after the manipulation as a function of conditions, $F(2,120)=4.05$, $p=.02$: participants in the control group rated self-enhancement values significantly higher in the post-manipulation survey ($M=-.53$, $SE=.14$) than in the pre-manipulation survey ($M=-.78$, $SD=.14$), $p=.04$; participants in the Self-Transcendence condition rated self-enhancement values marginally higher in the pre-manipulation survey ($M=-.58$, $SD=.15$) than in the post-manipulation survey ($M=-$

¹ Readers should be cautioned that, because PROCESS used list-wise deletions for missing data, more participants were excluded from the mediational analyses than the analyses conducted on AttP, AttB, and BI, respectively. There might be discrepancies between results from other analyses and analyses conducted using PROCESS due to difference in data exclusion, and discretion is recommended when comparing these results.

.83, $SD=.15$), $p=.05$. Even though there were some changes from pre- to post-manipulation ratings on value priorities, the value that was promoted in the specific condition did not gain more importance as a result of the manipulation. This is in line with findings in the previous research that thinking about reasons related to a value would not increase the mean self-reported importance of that value (Maio, et al., 2001). See Table 2 for mean and standard deviation for each higher-order value before and after the manipulation, and the correlations between ratings at time 1 and time 2 for each value.

To assess the relationship between values priority and attitudes and behaviors specified in Hypothesis 4, multiple regressions were carried out on AttP, AttB, and BI, respectively, with either post-manipulation self-transcendence or self-enhancement value priority entered as the predictor. Post-manipulation ratings on the self-transcendence and self-enhancement values were found highly correlated ($r=-.62$, $p<.01$) in this study, and entering highly correlated predictors simultaneously into the same regression would make the interpretation of the coefficients less straightforward (Cohen, Cohen, West, & Aiken, 2003). Therefore, ratings of these two values were separately entered into the equations in predicting the dependent variables, rather than being treated as predictors simultaneously.

Post-manipulation self-transcendence value priority marginally predicted participants' attitudes towards Alex, $B=.20$, $t(124)=3.64$, $p=.059$, did not significantly predict attitudes towards behaviors involving Alex, $B=.15$, $t(120)=1.28$, $p=.23$, but did significantly predict participants' behavioral intentions towards Alex, $B=.26$, $t(122)=3.25$, $p=.002$. Participants' gender (female coded as 0; male as 1) did not provide additional prediction to AttP, $B=-.07$, $t(123)=-.38$, $p=.70$, AttB, $B=-.05$, $t(119)=-.25$, $p=.81$, or BI, $B=-.11$, $t(121)=-.72$, $p=.48$, above the prediction of self-transcendence value priority. However, the gender of the person in the vignette (female coded as 0; male as 1) provided incremental prediction to AttP, $B=-.46$, $t(123)=-2.53$, $p=.01$, but not to AttB, $B=-.28$, $t(119)=-1.14$, $p=.16$, or BI, $B=-.17$, $t(121)=-1.20$, $p=.23$, above the prediction of self-transcendence value priority.

Post-manipulation self-enhancement value priority did not predict AttP, $B=-.13$, $t(124)=-1.38$, $p=.17$, AttB, $B=-.07$, $t(120)=-.68$, $p=.50$, and marginally predicted BI, $B=-.14$, $t(122)=-1.84$, $p=.068$. Participants' gender (female coded as 0; male as 1) did not provide additional prediction to AttP, $B=-.09$, $t(123)=-.48$, $p=.63$, AttB, $B=-.07$, $t(119)=-.34$, $p=.73$, or BI, $B=-.14$, $t(121)=-.96$, $p=.34$, above the prediction of self-enhancement value priority. However, the gender of the person in the vignette (female coded as 0; male as 1) provided incremental prediction to AttP, $B=-.48$, $t(123)=-2.64$, $p=.009$, but not to AttB, $B=-.31$, $t(119)=-1.53$, $p=.13$, or BI, $B=-.20$, $t(121)=-1.38$, $p=.17$, above the prediction of self-enhancement value priority.

The results showed some supportive evidence for Hypothesis 4: self-transcendence value priority was significantly related to, and self-enhancement value priority marginally related to, participants' behavioral intentions towards the person described as having schizophrenia in the vignette. Even though the priorities of these two values were not significantly related to attitudes towards the person or attitudes towards behaviors, the unstandardized coefficients (i.e. B) were consistent with the theoretical relationship between these values and stigmatizing attitudes: self-transcendence values had positive relationships with attitudes towards the person, attitudes towards behaviors, and behavioral intentions, whereas self-enhancement values had negative relationships with them. Moreover, it seemed that the gender of the person in vignette influenced participants' attitudes towards the person over and above their value priorities. Specifically, participants evaluated the person in vignette more positively if that person was described as a female than a male. However, the gender of the person in the vignette did not predict participants' attitudes towards behaviors involving this person and their behavioral intentions in addition to the prediction of value priorities.

2.3.4 Test of Hypothesis 5: Attitudes towards Behaviors and Perceived Norms as Mediators of the Value-Stigma Link

To assess the potential mediating effects of attitudes towards behavior and perceived norms on the relationship between value priorities and behavioral intentions, PROCESS was again used. Post-manipulation self-reported priority on self-transcendence values was first entered in PROCESS as the predictor; attitudes towards behaviors and perceived

norms were both designated as the mediators; behavioral intention was entered as the dependent variable. 1000 bootstraps were carried out to generate estimates for the mediational effects. The results showed that self-transcendence value priority had a significant direct effect on behavioral intention, $B=.18$, $SE=.06$, $t(84)=3.05$, $p=.003$, had a significant indirect effect on behavioral intention through attitudes towards behaviors, $B=.07$, $SE=.03$, $Z=2.01$, $p=.045$, but not through perceived norms, $B=.06$, $SE=.05$, $Z=1.23$, $p=.22$. Rather than being a mediator, perceived norms added significantly to the prediction of behavioral intention, $B=.41$, $SE=.07$, $t(84)=6.17$, $p<.001$, over and above provided by Self-transcendence and attitudes towards behavior. See Figure 4(a) for an illustration of the relationships among these variables.

The same analysis was conducted with self-enhancement values entered as the predictor. The results showed that self-enhancement values had no significant direct effect on behavioral intention, $B=-.09$, $SE=.05$, $t(84)=-1.71$, $p=.09$, and no indirect effect on behavioral intention through attitudes towards behavior, $B=-.04$, $SE=.03$, $Z=-1.22$, $p=.22$, or through perceived norms, $B=-.04$, $SE=.04$, $Z=-.82$, $p=.41$. Rather than serving as mediators, attitudes towards behavior, $B=.24$, $SE=.06$, $t(84)=3.78$, $p<.001$, and perceived norms, $B=.40$, $SE=.07$, $t(84)=5.79$, $p<.001$, independently predicted behavioral intention over and above self-enhancement value priority. See Figure 4(b) for an illustration.

It was therefore concluded that Hypothesis 5 received mixed support from the data: attitudes towards behaviors partially mediated the relationship between self-transcendence values and behavioral intention, but did not mediate the relationship between self-enhancement values and behavioral intention. Perceived norms did not serve as a mediator to the value-behavior relationships, but rather was an independent positive predictor of behavioral intention.

2.3.5 Test of Hypothesis 6: Self-Monitoring as a Moderator

In order to test for Hypothesis 6, that self-monitoring would moderate the relationships between value priority and attitudes towards behaviors, between attitudes towards behavior and behavioral intention, and between perceived norms and behavioral

intentions, multiple regressions were conducted following the suggestion by Baron and Kenny (1986) for testing moderating effects.

To examine the potential moderator effect of self-monitoring on the relationship between self-transcendence value priority and attitudes towards behavior, a product term for post-manipulation self-transcendence value priority and self-monitoring was calculated. Next, participants' post-manipulation self-transcendence value priority, self-monitoring scores, and their product term were simultaneously entered into a multiple regression to predict attitudes towards behaviors. As recommended by Baron and Kenny (1986), only the coefficient for the product term was interpreted as the moderating effect; coefficients for the main terms were not interpreted as they were not meaningful in the presence of the interaction term. The result showed that self-monitoring did not significantly moderate the relationship between self-transcendence value and attitudes towards behaviors, $B=.54$, $t(113)=.93$, $p=.36$. Similarly, the moderating role of self-monitoring on the relationship between self-enhancement value priority and attitudes towards behavior were examined by entering post-manipulation self-enhancement value priority, self-monitoring scores, and their product terms into a multiple regression in predicting attitudes towards behaviors. Self-monitoring was found to have no significant moderating effect on the relationship between self-enhancement value and attitudes towards behaviors, $B=-1.01$, $t(113)=-1.82$, $p=.07$.

The potential moderating role of self-monitoring on the relationships between attitudes towards behaviors and behavioral intention, and between perceived norms and behavioral intentions, were examined using procedures similar to those described above. Self-monitoring was found to neither significantly moderate the attitude-behavioral intention relationship, $B=.12$, $t(113)=.47$, $p=.64$., nor the norms-behavioral intention relationship, $B=-.31$, $t(88)=-1.13$, $p=.26$. In conclusion, Hypothesis 6 was not supported. People with different self-monitoring tendencies were not found to differ in the extent to which their value priorities were related to their attitudes towards behaviors, the extent to which their attitudes towards behaviors were related to self-reported likelihood of engaging in these behaviors, or the extent to which perceived norms were related to their behavioral intentions.

2.3.6 Post-Hoc Exploratory Analyses

Because the primary goal of the current studies was to find a value-related manipulation that could be effective in reducing stigmatization of people with mental illnesses, additional exploratory analyses were carried out in the hope of gaining insight into potential ways to modify the manipulation to increase its effectiveness.

During the manipulation in the first study, participants were instructed to think about reasons related to a value, and these reasons could be supportive of or/and contrary to the value. This procedure was used to provide as parallel an intervention as possible to that described by Maio, Olson, Allen, et al. (2001). Therefore, participants in the same experimental condition could have argued in different directions. Maio et al found that those participants who provided a greater proportion of reasons in favor of a value were more likely to subsequently demonstrate behavior consistent with that value. A post hoc analysis was carried out to examine the relationships between the content of the reasons provided by participants and their responses to the person described in the vignette. To investigate this possibility, participants' argument directions (i.e., whether they provided reasons in support of or against the value prompt in the manipulation) were coded, and were examined with regard to how they were related to attitudes towards the person, attitudes towards behaviors, and behavioral intentions.²

The essays that participants in the Self-Enhancement and the Self-Transcendence condition wrote during the manipulation were coded independently by two raters. Each participant's essay was classified as only favoring the importance of the value, only opposing its importance, or providing both supportive and opposing reasons. Consensus was then arrived for the classification of each participant's essay. In the Self-Enhancement condition, 18 participants were classified as having provided only reasons in favor of self-enhancement values (pro-SE), 6 only argued against them (anti-SE), and

² Maio, Olson, Allen, et al. (2001) investigated the relationship between argument and subsequent behaviors by counting the number of pro- and anti-value reasons and instantiations, instead of categorizing them by their overall directions. We repeated their approach but did not find any significant relationship between the number of pro- or anti-value reasons or instantiations and participants' behavioral intention.

17 provided reason in both directions (both-SE). In the Self-Transcendence condition, 32 people argued for self-transcendence values (pro-ST), only one argued entirely against them (anti-ST), and 7 people argued both ways (both-ST). The only person who argued against self-transcendence values was excluded from the following analyses, as he/she was the only member of that group.

One-way ANOVAs were carried out on attitudes towards Alex, attitudes towards behaviors involving Alex, and behavioral intentions towards Alex, respectively, using the above coding of argument directions as the independent variable. Argument direction was found to have a significant effect on AttP, $F(4,74)=2.88$, $p=.028$, AttB, $F(4,73)=4.52$, $p=.033$, and BI, $F(4,73)=4.64$, $p=.002$. Post hoc comparisons between different argument directions, corrected by Bonferroni to control for Type I errors, showed that for AttP, the anti-SE group ($M=4.88$, $SD=.74$) showed significantly more positive responses than the both-ST group ($M=3.18$, $SD=1.07$), $p=.02$. Similarly, for attitudes towards behaviors, the anti-SE group ($M=4.42$, $SD=.37$) had significantly more positive responses than the both-ST group ($M=2.21$, $SD=.92$), $p=.012$. For behavioral intention, the anti-SE group ($M=3.81$, $SD=.39$) had significantly higher scores than all other groups: people who argued against self-enhancement values had more positive behavioral intentions than those who argued for self-enhancement values ($M=2.61$, $SD=.91$), $p=.01$, those who argued both ways for self-enhancement values ($M=2.59$, $SD=.62$), $p=.01$, those who argued for self-transcendence values ($M=2.65$, $SD=.74$), $p=.007$, and those who argued both ways for self-transcendence values ($M=2.12$, $SD=.66$), $p=.001$. See Table 3 for the means and standard deviations of the three dependent variables for the five argument groups. Other pair-wise comparisons between argument directions for attitudes towards person, attitudes towards behaviors, and behavioral intentions were not statistically significant.

One-way ANOVA on pre-manipulation value priorities by argument directions suggested that there was a relation between the argument directions and initial values. Participants' pre-manipulation priority ratings on the self-transcendence values, $F(4,71)=4.24$, $p=0.004$, and the self-enhancement values, $F(4,71)=3.87$, $p=0.007$, varied significantly as a function of their argument directions, suggesting that participants who argued in

different directions with regard to the values had different pre-existing values priorities. Pair-wise comparisons with Bonferroni correction showed a significant higher pre-manipulation self-transcendence value priority for the anti-SE group ($M=1.31$, $SD=0.76$) than the pro-SE group ($M=0.08$, $SD=0.87$), $p=.034$; and a significant lower pre-manipulation self-enhancement value priority for the anti-SE group ($M=-1.59$, $SD=1.1$) than the pro-SE group ($M=0.04$, $SD=0.98$), $p=.007$. Differences between other pairs on the pre-manipulation ratings for these two values did not reach statistical significance. See Table 4 for the means and standard deviations of the initial value priorities reported by participants with different argument directions.

It is important to note that, when pre-manipulation self-reported priorities on the self-enhancement and self-transcendence values were included as covariates for the Univariate ANOVA on AttP, AttB, and BI, the effect of argument directions remained significant for attitudes towards behaviors, $F(4,67)=4.24$, $p=.004$, and behavioral intentions, $F(4,71)=4.73$, $p=.002$.

2.4 Discussion

The value-related manipulation implemented in this study was not effective in influencing people's stigmatizing attitudes or behavioral intentions towards the person described in a vignette as diagnosed with schizophrenia. However, the significant positive correlation between self-transcendence value and behavioral intentions towards the person portrayed as having schizophrenia was consistent with findings from past literature. Consistent with our hypothesis, it was found that attitudes towards behaviors partially mediated this relationship. There was no evidence for perceived norms mediating the relationship between values and behavioral intentions. Rather, perceived norms provided significant additional prediction to behavioral intention independently of priority attributed to self-transcendence values.

The results of the exploratory analyses suggested some potential modifications to the value-reasoning manipulation that may make it more effective in eliciting positive responses towards those with serious mental illness. Participants who provided solely anti-SE arguments had more positive behavioral intentions towards Alex than participants

with other argument directions, including those who argued for the self-transcendence values. According to Schwartz's model of value structure, the self-enhancement values oppose the self-transcendence values, implying that the pursuit of one would interfere the pursuit of the other. It would thus be reasonable to assume that arguing against self-enhancement values is similar to arguing for self-transcendence values. But why would people arguing against self-enhancement values have more positive responses to Alex than those arguing for self-transcendence values? One explanation is that those anti-SE participants had higher self-transcendence values and lower self-enhancement values to begin with, and that their differences in attitudes and behavioral intentions reflected such pre-existing differences in their value priorities. However, the effect of argument direction was still significant when participants' pre-manipulation value priorities were included as covariates, suggesting that there may have been some impact of arguing against the self-enhancement values, which made participants more positive in their attitudes and behavioral intentions towards the person described in the vignette.

A close examination of the content of the material written by the participants revealed that some of those who had argued for the self-transcendence value saw it as being compatible with self-enhancement values (e.g. "By helping others I help myself"; "If others' welfare is not in good standing, we risk our own welfare"). In contrast, for those who had argued against self-enhancement values, such values were seen as being opposed to the realization of self-transcendent goals (e.g. "When one strives to attain a high level of wealth or social values one must do things that tend to undermine the personal goals of others, which often leave one group or another oppressed").

Taking a perspective in which the self-transcendence and self-enhancement values are seen as "compatible" versus in conflict with each other might have result in differences in subsequent attitudes and behavioral intentions. Rokeach (1968) suggested that many situations that people encounter can be related to two or more values in conflict, and that people have to choose between the conflicting values in order to determine their own behaviors in that situation. Similarly, Schwartz (2010) emphasized the importance of trade-offs between competing values in guiding behaviors. When evaluating how desirable a behavior is, people consider the potential costs and benefits involved in this

behavior. Such costs (e.g. “helping others would cost me time/money”) and benefits (e.g. “helping others would make me feel better about myself”) could be material or psychological. Schwartz suggested that a behavior such as helping others would be most likely to occur when the value (i.e., self-transcendence values) that promotes this behavior is of high priority while its opposing value (i.e., self-enhancement value) is of low priority. In such case, the cost-benefit calculation would clearly favor the behavior as a result of high perceived benefit and low perceived cost.

In the current study, the participants who generated exclusively anti-SE reasons reached a clear preference for actions consistent with the self-transcendence values over actions consistent with self-enhancement values. In comparison, other participants may have either not seen the conflict between the two opposing values and the cost-benefit trade-off involved in acting with self-transcendence values (pro-ST participants), or did not reach a conclusion that clearly favors acting in line with self-transcendence values over acting in line with self-enhancement values (both-ST and both-SE participants). As a result, when facing the choice between decisions to accept and tolerate the person described in vignette or to be protective of oneself and to socially reject this person, the decision would be more ambiguous and thus less consistent with self-transcendence values for participants providing arguments in other directions than for the anti-SE participants.

There are a few limitations in this study that need to be addressed in the later study. First, because participants in the control group also filled out the pre- and post-manipulation value survey, it is possible that values were also activated for them, and subsequently influenced their responses to the dependent variables. A control group for whom the concept of value is not mentioned at all is needed to determine whether participants’ attitudes and behaviors would be influenced by merely filling out value surveys, and to provide an unbiased baseline to be compared with the attitudes and behaviors of the participants going through the manipulations.

Second, even though there is evidence in support of MTurk being a valid platform for conducting online psychology research (Berinsky, Huber, & Lenz, 2012), one third of

participants recruited for the current study had to be excluded for not paying adequate attention to our main manipulation or providing invalid essay answers during the manipulation. Using a different platform on which participants are more attentive to the manipulations could help decrease the number of exclusions and increase the power of the tests.

Third, Maio et al. (2001) suggested that a possible underlying mechanism for the effect of generating reasons related to a value on promoting value-consistent behavior was that people would be more confident in acting consistently with a value if it receives concrete cognitive support. People's confidence in their value priorities was not assessed in this current study, and therefore it was not possible to test whether people's confidence in their values changed as a function of the manipulation, and whether such confidence was related to their subsequent attitudes and behaviors. A measure of value confidence or certainty will be implemented in the second study to further investigate this issue.

Chapter 3

3 Study Two

Based on the foregoing rationale, modifications were made to the value-reasoning manipulation used in Study 1 in order to potentially improve its effectiveness in influencing attitudes and behavioral intentions to those with mental illnesses. In order to test the hypothesis that arguing against self-enhancement values would be more effective in inducing more positive responses towards those with serious mental illness than arguing for self-transcendence values, a pro-ST condition and an anti-SE condition were implemented. Participants were asked to only generate reasons in support of self-transcendence values in the pro-ST condition, and to only generate reasons against self-enhancement values in the anti-SE condition. In addition, in order to examine if explicitly thinking about both the costs and benefits involved in pursuing self-transcendence values would increase value-consistent responses, a third condition was implemented in which participants were asked to think about reasons that favor self-transcendence values over self-enhancement values (combination condition). It was also decided to include two control conditions. As noted earlier, the control group in the previous study also completed the Schwartz Value Survey, which may have, in itself, increased salience of values and reduced the likelihood of finding difference with other conditions. In Study 2, in addition to having a control condition identical to the one used in the previous study (control-value condition), another control condition was included, in which no value-related measure or manipulation was administered to the participants (control-no value condition).

In addition to examining the effect of the modified manipulations, Study 2 provides an opportunity to replicate findings regarding the relationship between the self-transcendence/self-enhancement value priorities and attitudes and behavioral intentions with respect to the individual with schizophrenia. The mediating roles of attitudes towards behaviors and perceived norms will be tested again with this second sample. All the dependent measures used in Study 1 were also included in the second study with one

exception: the self-monitoring scale was omitted, as no effect related to self-monitoring was found in the previous study.

To address the concern that the value survey used in the control group inadvertently made values salient and thus potentially biased the results in Study 1, a measure of value salience was implemented in Study 2. The amount of time participants spent on completing the pre- and post-manipulation value survey was recorded as a measure of value salience. This measure of value salience was modified from the one used in Maio et al. (2001). The rationale was that if participants in the control condition completed the post-manipulation value survey at a similar speed as those in the value-reasoning condition, while controlling any difference in their time spent on completing the pre-manipulation survey, it would suggest that values were as accessible to those in the control condition as those in the value-reasoning condition. In addition, to address the limitation of not having a measure of value confidence in the first study, participants in the value-reasoning conditions and the control-value condition were asked to rate how certain they were about their value ratings after they completed their post-manipulation value survey. Because only participants in the value-reasoning conditions generated concrete cognitive support to the values, it was expected that participants in the three value-reasoning conditions would have higher value certainty than those in the control-value condition. The impact of the manipulation on value salience and value certainty were not of primary interest in the current study, these effects would thus not be tested as main hypotheses, but rather would be included in the additional analyses.

3.1 Hypotheses

The hypotheses for Study 2 were as follows:

H1. The manipulation condition will lead to differences in participants' attitudes and behavioral intentions: the combination condition and anti-SE condition will lead to more positive attitudes towards the person, attitudes towards behaviors, and behavioral intentions than the pro-ST condition, which would lead to more positive responses than the two control conditions.

H2. The effect of manipulation condition on behavioral intention would be mediated by attitudes towards behaviors and perceived norms regarding behaviors.

H3. Higher self-transcendence value priority will predict more positive attitudes towards person, attitudes towards behaviors, and behavioral intentions, whereas higher priority on the self-enhancement values will be associated with more negative attitudes and behavioral intentions.

H4. The relationship between value priorities and behavioral intentions will be mediated by attitudes towards behaviors and perceived norms towards behaviors.

3.2 Method

3.2.1 Participants

To address the concern over the apparent inattentiveness of some MTurk participants, a different participant pool was used. Participants were recruited from the subject pool affiliated with the Introduction to Psychology course at Western University. Students received class credits for participation. The project was advertised as combining, for efficiency, two separate studies, one aimed at examining the reasoning process of university students, and the other aimed at examining how people form first impressions of others. The students completed the study online using Qualtrics.com.

Among the 201 participants who completed the study, 17 were excluded for spending less than 30 seconds on the 305-word vignette (i.e. 610 words per minute) or for either not providing any essay answer or having provided clearly off-topic essay answers during the manipulation. The remaining 184 participants (female=113, male=71) had an average age of 18 ($SD=1.1$), ranging from 17 to 28. Among these 184 participants, 162 of them reported to speak English as their first language, while 22 of them reported that English is not their first language.

3.2.2 Procedure

After reading the letter of information and completing the consent form, participants were randomly assigned to one of the five experimental conditions. They were instructed to

write for 8 minutes, providing reasons in support of the self-transcendence values (pro-ST condition), against the self-enhancement values (anti-SE condition), in support of the self-transcendence values relative to the self-enhancement values (combination condition), or to simply write about their daily routine for the same amount of time (control-value condition and control-no value condition).

For participants in the three value-reasoning conditions and in the control-value condition, value priorities were measured once before and once after the writing task. The amount of time that participants spent on completing each survey was recorded. These participants were also asked to rate from 1 (“Not certain at all”) to 5 (“Very certain”) on how certain they were about their value ratings immediately after completing the second value survey. Participants in the control-no value condition did not complete any value survey during the study, nor were they asked about their value certainty. All participants were then told that they had finished the first study and would now complete a separate second study. They then read a vignette of a person who was described as being diagnosed with schizophrenia. The vignette was identical to the one used in Study 1, and the person was described as a male for half of the participants and a female for the rest. After reading the vignette, participants completed the dependent measures in the following order: attitudes towards the person depicted in the vignette, attitudes towards six behaviors involving this person, perceived norms towards these six behaviors, and finally, behavioral intentions towards the person. All the measures were identical to the ones used in Study 1.

3.2.3 Materials

All the materials used in Study 2 were identical to the ones used in Study 1 with the exception of the instructions used in value-reasoning manipulation. The instructions used in the value-reasoning manipulation in Study 2 can be seen in Appendix K.

3.3 Results

As previously mentioned, 17 participants were excluded from the analyses for paying inadequate attention to the manipulation or the vignette. Including these participants did not change the conclusions for the reported analyses except for the effect of the

manipulation on attitudes towards behaviors, which would be discussed further in the following section. These participants were excluded nonetheless in order to achieve greater accuracy of estimations of the effects being tested. In addition, 13 participants expressed their suspicion that the “two separated studies” were related, and that the hypothesis of the study was on how personal values were related to responses to people with mental illness. Excluding these participants slightly changed the conclusion for the effect of the manipulation but not for other analyses, and these participants were thus included for the analyses. The change in results with regard to the effect of the manipulation when the suspicious participants were excluded are discussed in further details later.

The internal consistency for the scales obtained in this study was mostly comparable to the ones obtained in Study 1. Attitudes towards the person scale (AttP) had a Cronbach's Alpha of .59; the attitudes towards behavior scale (AttB) had a Cronbach's Alpha of .92; the social distance scale that measured participants' behavioral intentions (BI) had a Cronbach's Alpha of .82; and the perceived norms scale has a Cronbach's Alpha of .88. See Table 5 for means and standard deviations for all the aforementioned variables and their inter-correlations.

3.3.1 Test of Hypothesis 1: Effects of the Value-Reasoning Manipulation

To test the effect of our manipulation on stigmatizing attitudes and behavioral intentions towards the person described in the vignette, one-way ANOVAs were conducted on attitudes towards the person, attitudes towards behaviors, and behavioral intentions, respectively, with the manipulation conditions as the between-group factor. It was found that the conditions did not have a significant effect on attitudes towards the person, $F(4,176)=2.04, p=.09$, or behavioral intentions, $F(4, 174)=.45, p=.77$, but did have a significant effect on attitudes towards behaviors, $F(4, 174)=2.52, p=.043$.

Post hoc pair-wise comparisons on AttB, corrected by Bonferroni to control for Type I errors, showed that only the difference between the combination condition ($M=3.49, SD=.64$) and the control-no value condition ($M=2.95, SD=.76$) reached statistical

significance, $p=.034$. It is worth noting that even though the other pair-wise comparisons did not reach statistical significance, the pattern of the differences was trending towards the hypothesized directions (see Figure 5). In addition, for both AttP and BI, pair-wise comparisons between different conditions were trending towards the expected pattern: participants in the combination condition had more positive responses than participants in other conditions, although the differences were not statistically significant. The results were thus mixed with respect to Hypothesis 1: the combination condition tends to result in more positive responses than other conditions, but the difference was only significant between the combination and control-no value conditions and only for attitudes towards behaviors. Anti-SE and pro-ST condition did not differ between themselves or when compared to the control conditions.

It was worth noting that, when thirteen participants who expressed their suspicion that study was to examine the relationship between personal values and responses to those with mental illness were excluded, the effect of the manipulation condition on AttB became only marginally significant, $F(4, 163)=2.21, p=.07$, even though the pattern of the results remained unchanged. In addition, including all participants in the analysis changed the effect of the manipulation on AttB so that the effect was no longer significant, $F(4,191)=1.78, p=.14$. This change in results might suggest that those 17 participants initially excluded from the analyses were indeed inattentive during the manipulation and therefore were not responsive to the manipulation. It might also suggest that the effect of the manipulation on AttB, albeit trending towards the hypothesized direction, was not a robust effect.

To further investigate whether the effects of participants' gender and the gender of Alex on the dependent variable found in Study 1 replicate, a Univariate ANOVA was conducted on AttP, AttB, and BI, respectively, with the manipulation conditions, participants' gender, Alex's gender as described in the vignette, and all two-way and three-way interactions among them as the independent variables. Inconsistent with Study 1, the results showed that participants' responses did not vary as a function of Alex's gender, and that no significant interaction was found among these three independent variables on any of the three dependent variables. In addition, the effect of the

manipulation conditions on AttB became only marginally significant, $F(4, 159)=2.19$, $p=.07$, when participants' gender, the gender of the person in the vignette, and their interactions with the manipulation conditions were included as independent variables.

3.3.2 Test of Hypothesis 2: Attitudes towards Behaviors and Perceived Norms as Mediators for the Effect of the Value-Reasoning Manipulation

To test the potential mediating effects of attitudes towards behaviors and perceived norms on the relationship between manipulation conditions and behavioral intentions, the SPSS plug-in PROCESS (Hayes, 2013) was used, as it allows the test of direct and indirect effects of the mediators when the predictor is a categorical variable. Through PROCESS, the manipulation condition was entered as the predictor and the conditions were coded using dummy coding; both attitudes towards behaviors and perceived norms were entered as mediators, and behavioral intention was designated as the dependent variable. 1000 bootstraps were carried out to generate estimates for indirect effects. The results showed that manipulation conditions did not have significant direct effect, $B=.03$, $SE=.02$, $t(142)=1.16$, $p=.25$, but did have a significant indirect effect on behavioral intention through attitudes towards behaviors ($B=-.03$, $SE=.01$, $Z=-2.34$, $p=.02$), but not through perceived norms ($B=-.02$, $SE=.02$, $Z=-.72$, $p=.47$). Although there was a significant indirect effect of the manipulation condition on behavioral intention through attitudes towards behaviors, the manipulation failed to have a significant total effect on behavioral intention, $B=-.02$, $SE=.04$, $t(142)=-.60$, $p=.55$.

The results suggested that, although the manipulation failed to have a significant direct effect on behavioral intention, it exerted a significant indirect effect on behavioral intention by influencing attitudes towards behavior. However, the indirect effect of the manipulation through AttB on BI was not robust enough to lead behavioral intentions towards Alex to vary significantly as a function of the manipulation. Overall, it seems that Hypothesis 2 received mixed results: the manipulation did exert some influence on behavioral intention through its impact on attitudes towards behaviors, but the effect was not strong enough to lead to significant changes in participants' behavioral intentions.

3.3.3 Test of Hypothesis 3: Linking Value Priorities, Attitudes, and Behavioral Intentions

Before testing the value-attitude-behavioral intention link, a repeated measure ANOVA with the manipulation conditions as the between-subject variable and the pre- and post-manipulations ratings as the within-subject, repeated variable was conducted on self-transcendence values and on self-enhancement values, respectively, as in Study 1. Only the three value-reasoning conditions and the control-value condition were included in these analyses, as no value priority was measured for participants in the control-no value condition. The results suggested that both participants' self-transcendence values, $F(1,142)=5.18, p=.024$, and their self-enhancement values, $F(1,142)=5.76, p=.018$, significantly changed from the pre-manipulation survey to the post-manipulation survey. Participants rated both self-transcendence values ($M=0.57, SD=0.88$ vs. $M=0.41, SD=0.86, p=.024$) and self-enhancement values ($M=-0.02, SD=0.81$, vs. $M=-0.18, SD=0.79, p=.018$) higher in their pre- than post-manipulation value survey. The difference between pre- and post-manipulation ratings on self-transcendence or self-enhancement values did not vary as a function of manipulation conditions. The results suggested that, in line with findings from Maio et al. (2001) and Study 1, thinking about reasons for a value did not change participants' ratings for that particular value. Rather, participants in general rated these two values as of less importance in the post-manipulation survey. This might have been a result of differences in the specific value items used in the two value surveys. However, such an overall decrease from pre- to post-manipulation ratings for the values was not found in Study 1. The different findings in the two studies might have resulted from the different samples used and potential differences in the importance assigned to the specific value items by participants in each sample, but without further evidence, this explanation is only speculative. See Table 6 for mean and standard deviation for each higher-order value before and after the manipulation, and the correlations between ratings at time 1 and time 2 for each value.

To test Hypothesis 3 that the self-transcendence and self-enhancement values are systematically related to participants' attitudes towards Alex, attitudes towards behaviors

with respect to Alex, and their behavioral intentions towards Alex, multiple regressions were conducted on these variables, respectively, with either post-manipulation self-transcendence value priority or post-manipulation self-enhancement value priority entered as the predictor. The results showed that participants' self-reported priority on self-transcendence values significantly predicted their attitudes towards Alex, $B=.20$, $SE=.07$, $t(143)=3.16$, $p=.002$, their attitudes towards behaviors with respect to Alex, $B=.28$, $SE=.07$, $t(142)=3.99$, $p<.001$, and their behavioral intentions towards Alex, $B=.19$, $SE=.07$, $t(140)=3.03$, $p=.005$. Participants' gender (female coded as 0; male as 1) did not provide additional prediction to AttP, $B=-.08$, $t(142)=-.72$, $p=.47$, AttB, $B=.11$, $t(141)=.89$, $p=.34$, or BI, $B=.08$, $t(139)=.69$, $p=.50$, above the prediction of self-transcendence value priority; nor did the gender of the person in the vignette (female coded as 0; male as 1) provide any incremental prediction to AttP, $B=-.03$, $t(142)=-.28$, $p=.80$, AttB, $B=-.03$, $t(141)=-.27$, $p=.79$, or BI, $B=-.09$, $t(139)=-.77$, $p=.44$, above the prediction of the value.

Self-enhancement also significantly predicted AttP, $B=-.15$, $SE=.07$, $t(143)=-2.02$, $p=.045$, AttB, $B=-.26$, $SE=.08$, $t(142)=-3.41$, $p=.001$, and BI, $B=-.21$, $SE=.07$, $t(140)=-2.86$, $p=.005$. Participants' gender (female coded as 0; male as 1) did not provide additional prediction to AttP, $B=-.11$, $t(142)=-.93$, $p=.36$, AttB, $B=.10$, $t(141)=.77$, $p=.44$, or BI, $B=.08$, $t(139)=.66$, $p=.51$, above the prediction of self-enhancement value priority; nor did the gender of the person in the vignette (female coded as 0; male as 1) provide any incremental prediction to AttP, $B=-.07$, $t(142)=-.65$, $p=.52$, AttB, $B=-.11$, $t(141)=-.87$, $p=.39$, or BI, $B=-.15$, $t(139)=-1.25$, $p=.21$, above the prediction of the value.

As can be seen from the previously reported coefficients, higher self-transcendence value was related to more positive responses and less stigmatizing attitudes and behavioral intentions, whereas self-enhancement value was related to less positive responses and greater stigma. Hypothesis 3 was therefore supported.

3.3.4 Test of Hypothesis 4: Attitudes towards Behaviors and Perceived Norms as Mediators of the Value-Stigma Link

The potential mediational effects of attitudes towards behavior and perceived norms for the relationship between value priorities and behavioral intention were assessed using PROCESS. Post-manipulation ratings on the self-transcendence values was first entered as the predictor of behavioral intention, with AttB and perceived norms entered as mediators. 1000 bootstraps were carried out to estimate the indirect effects. The results showed that self-transcendence value priority had no significant direct effect on behavioral intention, $B=.04$, $SE=.05$, $t(110)=.87$, $p=.39$, however it had a significant indirect effect on behavioral intention through attitudes towards behavior, $B=.09$, $SE=.03$, $Z=3.10$, $p=.002$, but not through perceived norms, $B=.05$, $SE=.04$, $Z=1.34$, $p=.18$. Given that self-transcendence value priority also had a significant total effect on behavioral intention, $B=.19$, $SE=.07$, $t(110)=2.71$, $p=.008$, it appears that the effect of the self-transcendence value priority on participants' behavioral intention was fully mediated by attitudes towards behaviors. Perceived norms did not mediate the process, but rather independently provided additional prediction to behavioral intention over and above effect of self-transcendence values and attitudes towards behaviors, $B=.44$, $SE=.05$, $t(110)=8.44$, $p<.001$. See Figure 6(a) for an illustration of the relationships among self-transcendence value priority, attitudes towards behaviors, perceived norms, and behavioral intention.

The same analysis was conducted again with post-manipulation self-enhancement value priority as the predictor. The results showed that self-enhancement value priority had no significant direct effect on behavioral intention, $B=-.09$, $SE=.05$, $t(110)=-1.74$, $p=.08$, but had a significant indirect effect on behavioral intention through attitudes towards behavior, $B=-.09$, $SE=.03$, $Z=-2.93$, $p=.003$, and but not through perceived norms, $B=-.08$, $SE=.04$, $Z=-1.75$, $p=.08$. Because self-enhancement value priority also had a significant total effect on behavioral intention, $B=-.26$, $SE=.08$, $t(110)=-3.41$, $p<.001$, it appears that relationship between self-enhancement value priority and behavioral intentions was fully mediated by attitudes towards the behaviors. Rather than serving as a mediator, perceived norms also significantly added to the prediction of behavioral intention independently of

self-enhancement values and attitudes towards behaviors, $B=.43$, $SE=.05$, $t(110)=8.48$, $p<.001$. See Figure 6(b) for an illustration of the relationships among self-enhancement value priority, attitudes towards behaviors, perceived norms, and behavioral intention.

Hypothesis 4 was therefore largely supported: attitudes towards behavioral intentions fully mediated the relationships between self-transcendence/self-enhancement value priorities and behavioral intentions. Perceived norms were found not to be a significant mediator, but they did add significantly to the prediction of behavioral intention. This finding was also consistent with results from Study 1. In both studies, attitudes towards behaviors mediated the relationship between the self-reported priorities placed on the self-transcendence values, and in Study 2 on the self-enhancement values, and behavioral intentions that reflect preferred social distance with respect to Alex. Perceived norms were found to be an independent predictor of behavioral intentions over and above the effect of values and attitudes towards behaviors in both studies.

3.3.5 Additional Analyses on Value Salience and Value Certainty

To address the issue of whether filling out the value survey also made the values salient for participants in the control-value condition, compared to participants in the three value-reasoning conditions, a Univariate ANOVA on post-manipulation value salience by conditions was conducted, with the pre-manipulation value salience entered as a covariate. The results showed no significant difference in the amount of time spent on the post-manipulation survey for participants in different conditions, $F(3, 142)=1.74$, $p=.16$, when the time spent on the pre-manipulation survey was controlled for. This may suggest that merely filling out the value survey could activate certain values for people, which might have impacted their responses to the later tasks, and led to the non-significant difference between the value-reasoning condition and the control-no value condition. However, because this measure of value salience has not been validated in other studies, the results should be interpreted with caution.

The certainty that participants assigned to their value ratings was not found to vary significantly as a function of manipulation condition either, $F(3, 143)=.83$, $p=.48$. This might suggest that, contrary to the postulate of Maio, Olson, Allen, et al. (2001), forming

concrete cognitive support for a value did not influence confidence in the importance of the value. Again, this result should be interpreted with caution because (1) the measure was a 5-point single item question, which might not be a reliable measure of value certainty; and (2) there is no independent evidence of the validity of this measure.

3.4 Discussion

The results from Study 2 provided only limited support for the objective of finding an effective values based intervention to improve reactions to those with schizophrenia. In general, it appears that the combination condition led to more positive attitudes towards behaviors involving the person described in the vignette, but the difference was only significant between the combination condition and the control with no value survey condition. The combination condition did not show more effect than the anti-SE or pro-ST condition, nor did the latter two lead to any significant difference in attitudes towards behavior compared to the control conditions where no value-related reasoning was completed by the participants. Moreover, the effectiveness of the combination condition in eliciting more positive responses was not found on attitudes towards the person in the vignette or behavioral intentions towards this person. Overall, the value-related manipulation implemented in this study was not a robust intervention for improving responses towards the individual with schizophrenia.

In Study 2, the expected relationships between the self-transcendence and self-enhancement value priorities and stigmatizing attitudes and behavioral intentions were found. Greater endorsement of the self-transcendence values was related to more positive and less stigmatizing responses towards the person described as with schizophrenia in the vignette, whereas higher self-enhancement values were found to be related to less positive and more stigmatizing attitudes and behavioral intentions towards this person. These findings were consistent with the results of Study 1, and provided further support for the notion that these two values are systematically related to mental illness stigma. Furthermore, in Study 2, it was found that the relationship between these values and people's behavioral intentions was fully mediated by attitudes towards behaviors.

Similar to the findings in Study 1, perceived norms were generally an independent predictor of behavioral intention. This suggests that perceived norms could be an important target in educational campaigns against mental illnesses stigma. Furthermore, the consistent finding that perceived norms did not act as a mediator between values and behavioral intentions might suggest that people's perceived norms are relatively uninfluenced by their values, and that efforts should be made to identify factors that could influence perceived norms, and potentially be targeted in searching for effective ways to reduce mental illness stigma.

Chapter 4

4 General Discussion and Limitations

Two studies were conducted with the primary goal of finding an effective intervention to reduce stigmatizing attitudes and behavioral intentions towards those with mental illnesses. The interventions in both studies were derived from past literature showing relationships between value priorities and preferred level of social distance towards individuals with mental illnesses such as schizophrenia and depression (Norman, Sorrentino, Gawronski, et al., 2010) and the effectiveness of values based reasoning tasks in increasing the likelihood that people will act in a fashion that is consistent with their values (Maio, Olson, Allen, et al., 2001).

The value-based manipulation implemented in Study 1, which asked participants to consider reasons either supportive or contrary to self-transcendence value or self-enhancement value, did not effectively lead to differences in subsequent attitudes and behavioral intentions towards a hypothetical person described as being diagnosed with schizophrenia. Based on exploratory analyses, modifications were made on the value-related manipulation so that participants only considered reasons either in support of self-transcendence value or against self-enhancement value in Study 2. A third manipulation condition was also added, in which participants considered reasons for why acting on the basis of self-transcendence values was better than actions based on self-enhancement value (i.e., combination condition). Partly consistent with the hypothesis, the combination condition was found to generate the most positive attitudes towards behaviors involving the person described in the vignette. However, only the contrast between the combination condition and the control with no value condition was statistically significant. There were no comparable effects on attitudes towards the person or behavioral intentions.

Even though the manipulations used in the current studies did not show robust effects in reducing stigma, it could still be interesting and informative to consider why the combination condition in Study 2 might have elicited the most positive attitudes towards behaviors compared to all other conditions. The proposed explanation for the greater

effectiveness of the combination condition was that by contrasting the self-transcendence values against the self-enhancement values, it made it more explicit to people that actions pursuing the self-enhancement values can be in conflict with the pursuit of self-transcendence values, thereby making people more aware of the potential trade-off between cost and benefits associated with actions consistent with self-transcendence values. As a result, people would have better cognitive support for behaving consistently with self-transcendence values, even when there is some cost of not pursuing the competing self-enhancement values. This explanation is in agreement with the postulate that values often act as truisms (Maio & Olson, 1998) and that both a value and its cognitive support need to be activated in order to facilitate corresponding attitudes and behaviors. Findings from Study 2 might contribute to the existing value literature by highlighting the importance of considering potentially competing values involved in any situation, and the importance of making the competing nature of some values explicit to people in order to promote value-consistent attitudes and behaviors.

More evidence is needed to confidently conclude that such an effect does exist and that the findings from Study 2 are replicable. Furthermore, the proposed underlying mechanism for the effect is currently no more than speculation. Measures designed to assess value salience and value certainty were not influenced by the value-reasoning manipulation implemented in Study 2. Further research is needed to understand the route through which making the contrast between self-transcendence and self-enhancement values more explicit might lead to attitudes more consistent with self-transcendence values and less stigmatization towards those with serious mental illness.

The technique of arguing why actions consistent with self-transcendence values are more important than those consistent with self-enhancement values is, interestingly, somewhat comparable to Rokeach's self-confrontation technique (Rokeach, 1971). Both these two techniques aimed at changing people's attitudes and behaviors by contrasting one value with another. The main difference between these two techniques is that one is aimed at forming reasons in support of a value against the other, whereas the other is aimed at inducing self-dissatisfaction through social comparisons. One interesting and potentially informative line of future research would be to examine whether Rokeach's self-

confrontation technique could be applied in the context of mental illness stigma, and to compare it with the effect of developing cognitive support for pursuing one value at the cost of pursuing another. These two techniques could even be combined in creating a novel intervention in which people both are induced to feel self-dissatisfaction through social comparison, and are invited to form cognitive support for pursuing one value over the other. Examining the effectiveness of these different techniques could potentially provide valuable insights for the development of an effective intervention in reducing stigma against serious mental illness.

It is important to note that, in Study 2, the effect of the manipulation on attitudes towards behavior did not translate to any significant effect on behavioral intention. Such a lack of correspondence between attitudes and behavioral intention could result from situational factors that discouraged people from endorsing actions consistent with their attitudes. Following the model depicted in Figure 3, the perception of behavioral control, or lack thereof, could also modulate the effect of the manipulation on behavioral intention. It is possible that some situational factors decreased participants' expectation that their behavior would actually accomplish goals promoted by their self-transcendence values. For example, a lack of familiarity with people with schizophrenia might have made participants unsure about how to act appropriately when engaging in the behaviors included in the measure of social distance. Future research could probe into factors related to the perceived control component outlined in the model, and examine the potential effect of interventions based on these factors. For example, educational programs could give people instructions on what the appropriate behaviors are during social interactions with those with mental illnesses. Being informed of how to behave appropriately in such social interactions, people may be more confident in how they should act and perceive greater control over their behaviors, which could potentially lead to greater consistency between their attitudes towards the behaviors and behavioral intentions.

The more consistent findings across the two studies were the relationship between priorities placed on self-transcendence and self-enhancement values and stigmatizing attitudes and behaviors. Participants' attitudes towards the person in vignette, attitudes

towards behaviors involving the person, and intentions to engage in behaviors with respect to this person were all positively related to their self-transcendence value priority, and negatively related to their self-enhancement value priority. In other words, people with higher self-transcendence values would form more positive evaluations towards the person described as with schizophrenia in the vignette, and would show greater intentions to engage in social interactions with this person. People with higher self-enhancement value, in contrast, have less positive evaluations towards this person and are less willing to engage in social interactions with this person. These findings are consistent with previous findings on values and mental illnesses stigma (e.g., Norman et al., 2008).

In addition, Study 2 found a full mediation by attitudes towards behaviors for the relationship between value priority and behavioral intention. This finding concerning the significant mediational role of attitudes towards behaviors could contribute to the extant research by providing first evidence in support of the value-attitude-behavior hierarchical structure (Homer & Kahle, 1988) as applied to the issue of mental illness stigma. In addition, the findings fit with the model described in the introduction and illustrated in Figure 3, which stemmed from an integration of the theory of planned behavior and the value-expectancy model by Feather (1991). It is, however, worth noting that this mediational path was not found consistently across the two studies. This inconsistency requires further investigation and poses a major limitation for the current studies. Furthermore, no competing model was tested in the current studies, and there could be alternative models that could also explain the patterns emerged in the data. More evidence is needed to further reveal the mechanisms underlying the relationship between values and behavioral intentions towards those with mental illness, and the extent to which attitudes towards these behaviors indeed mediate the process.

As previously mentioned, it was consistently found across the two studies that perceived norms provided additional and significant prediction to behavioral intention beyond the prediction of values and attitudes towards behaviors. Even though past research has looked at how perceived norms, attitudes, and values influence mental illness stigma, little has been done to examine the relationship amongst these variables and how they jointly exert impact on stigma. The current studies contribute to the extant literature by

providing preliminary evidence of how these factors are related to each other in determining people's behavioral intentions towards those with mental illnesses.

Finally, the two samples used in Study 1 and 2 were very different: the first sample was recruited on MTurk and was a more mature and diverse sample than the second one, which mainly consisted of first year university students. More people were excluded from the first sample for giving obviously irrelevant answers during the writing task of the manipulation compared to the second sample. This might indicate some difference in the quality of responses attained from the two samples. Such differences between the two samples might have contributed to some of the inconsistent findings in Study 1 and 2, and future attempts should be made to test the hypotheses again using more comparable samples.

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Table 1

Summary of Inter-correlations, Means, and Standard Deviations for the Dependent Variables in Study 1

Variable	1	2	3	4	5
1. AttP	-	.63**	.58**	.53**	-.08
2. AttB	.63**	-	.68**	.65**	-.04
3. BI	.58**	.68**	-	.74**	.03
4. Norms	.53**	.65**	.74**	-	.12
5. Monitoring	-.08	-.04	.03	.12	-
<i>M</i>	4.18	3.39	2.70	3.56	1.44
<i>SD</i>	1.04	1.10	0.82	0.96	0.21

Note. AttP= Attitudes towards the Person; AttB= Attitudes towards Behaviors; BI= Behavioral Intentions; Norms= Perceived Norms; Monitoring= Self-Monitoring. ** $p < .01$.

Table 2

Summary of Means and Standard Deviations for Each Higher-Order Value Before and After the Manipulation, and Correlation between the Rating at Time 1 and at Time 2 For Each Value in Study 1

Value	<u>Pre-Manipulation</u>	<u>Post-Manipulation</u>	T1-T2 Correlation
	<i>M(SD)</i>	<i>M(SD)</i>	
Openness to Change	0.08(0.82)	0.21(0.94)	.58**
Conservation	-0.25(0.91)	-0.45(1.14)	.58**
Self-Enhancement	-0.62(0.96)	-0.62(0.96)	.64**
Self-Transcendence	0.80(0.92)	0.85(0.89)	.60**

Note. ** $p < .01$.

Table 3

Means and Standard Deviations of the Three Dependent Variables for Participants with Different Argument Directions

	Argument Direction Groups									
	<u>Pro-ST</u>		<u>Both-ST</u>		<u>Pro-SE</u>		<u>Anti-SE</u>		<u>Both-SE</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
AttP	4.18 ^{ab}	1.00	3.18 ^a	1.07	4.31 ^{ab}	1.00	4.87 ^b	.74	4.04 ^{ab}	1.07
AttB	3.33 ^{ab}	1.06	2.21 ^a	.92	3.74 ^{ab}	1.00	4.42 ^b	.37	3.34 ^{ab}	1.09
BI	2.65 ^a	.73	2.12 ^a	.66	2.61 ^a	.91	3.81 ^b	.39	2.59 ^a	.62

Note. Means followed by the same subscript do not differ at 5% level of significance.

Pro-ST= Participants who argued only in favor of self-transcendence value; Both-ST=

Participants argued both in favor and against self-transcendence value; Pro-SE=

Participants who argued only in favor of self-enhancement value; Anti-SE= Participants

argued only against self-enhancement value; Both-SE= Participants argued both in favor

and against self-enhancement value; AttP=Attitudes towards the person in vignette

(Alex); AttB= Attitudes towards behaviors involving Alex; BI= Behavioral intentions

towards Alex.

Table 4

Means and Standard Deviations of Pre-Manipulation Ratings on Self-Transcendence Values and Self-Enhancement Values for Participants with Different Argument Directions

	Argument Direction Group									
	<u>Pro-ST</u>		<u>Both-ST</u>		<u>Pro-SE</u>		<u>Anti-SE</u>		<u>Both-SE</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ST	0.94 ^b	0.63	0.92 ^{ab}	0.61	0.08 ^a	0.87	1.31 ^b	0.76	0.77 ^{ab}	1.09
SE	-0.67 ^{ab}	0.82	-0.47 ^{ab}	0.96	0.34 ^a	0.98	-1.59 ^b	1.05	-0.76 ^{ab}	0.92

Note. Means followed by the same subscript do not differ at 5% level of significance. ST = self-transcendence values; SE= self-enhancement values. Pro-ST= Participants who argued only in favor of self-transcendence values; Both-ST= Participants argued both in favor and against self-transcendence values; Pro-SE= Participants who argued only in favor of self-enhancement values; Anti-SE= Participants argued only against self-enhancement values; Both-SE= Participants argued both in favor and against self-enhancement values.

Table 5

Summary of Inter-Correlations, Means, and Standard Deviations for the Dependent Variables in Study 2

Variable	1	2	3	4
1. AttP	-	.50**	.47**	.35**
2. AttB	.50**	-	.65**	.49**
3. BI	.47**	.65**	-	.75**
4. Norms	.35**	.49**	.75**	-
<i>M</i>	3.97	3.26	2.77	3.60
<i>SD</i>	0.71	0.77	0.70	0.83

Note. AttP= Attitudes towards the Person; AttB= Attitudes towards Behaviors; BI= Behavioral Intentions; Norms= Perceived Norms; Monitoring= Self-Monitoring. ** $p < .01$.

Table 6

Summary of Means and Standard Deviations for Each Higher-Order Value Before and After the Manipulation, and Correlation between the Rating at Time 1 and at Time 2 For Each Value in Study 2

Value	Pre-Manipulation		Post-Manipulation
	<i>M(SD)</i>	<i>M(SD)</i>	T1-T2 Correlation
Openness to Change	0.23(0.79)	0.48(0.81)	.46**
Conservation	-0.78(0.76)	-0.71(0.83)	.45**
Self-Enhancement	-0.02(0.81)	-0.18(0.79)	.52**
Self-Transcendence	0.57(0.82)	0.41(0.85)	.52**

Note. ** $p < .01$.



Figure 1. Schwartz's (1992) value structure.

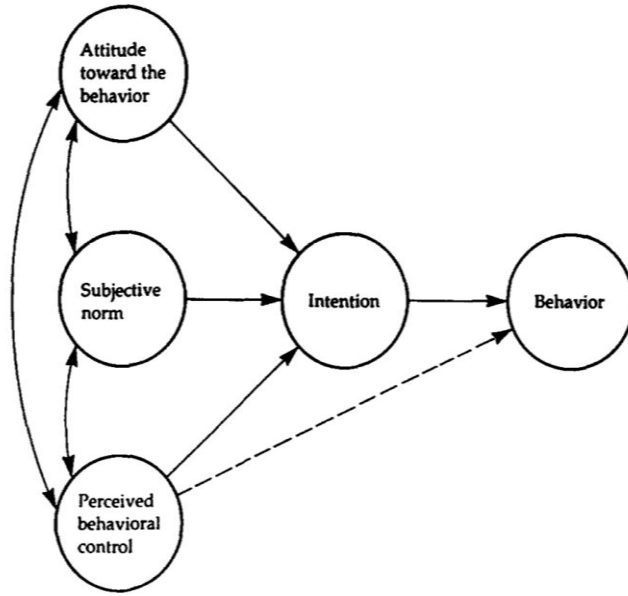


Figure 2. The theory of planned behavior (Ajzen, 1985, 1991).

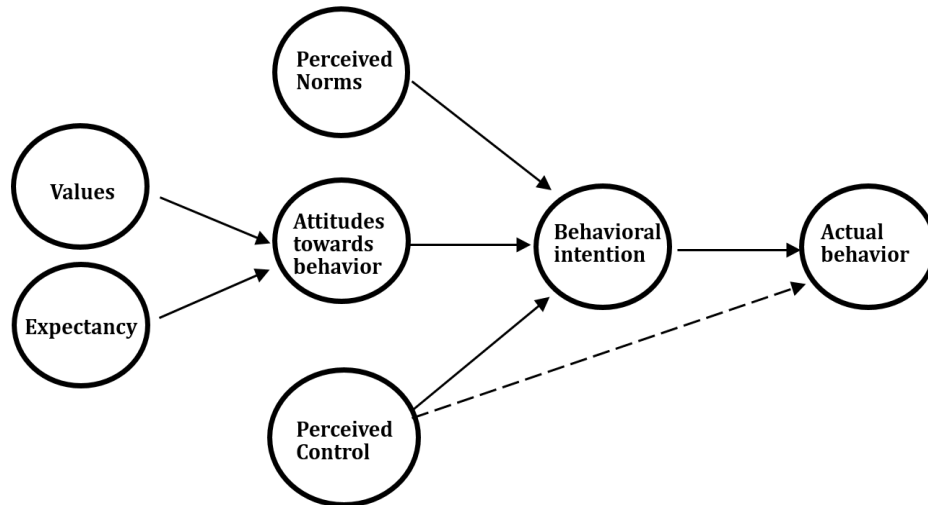
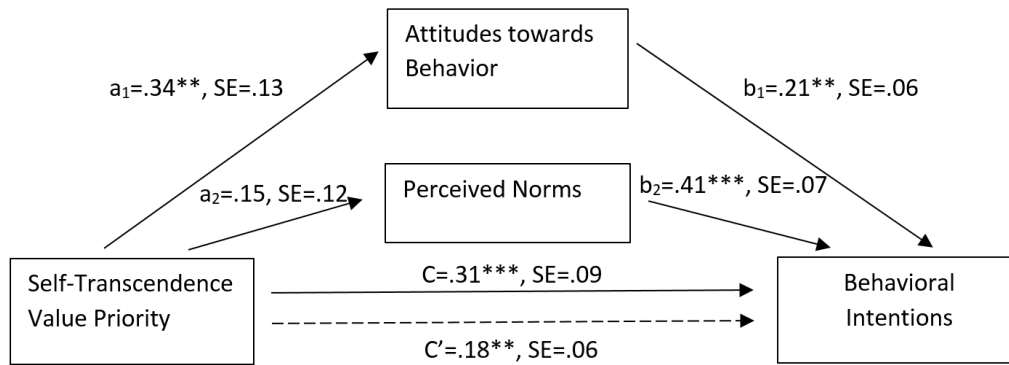
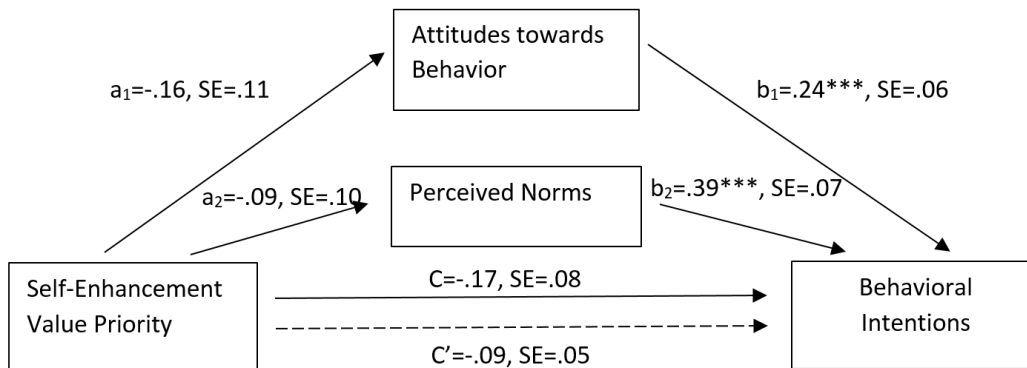


Figure 3. The value-attitude-behavior hierarchy: integrating the theory of planned behavior and Feather's expectancy value model.



(a)



(b)

Figure 4. The mediating effects of attitudes towards behavior and perceived norms for the relationship between the self-transcendence (a) and the self-enhancement (b) value priorities and behavioral intentions in Study 1.

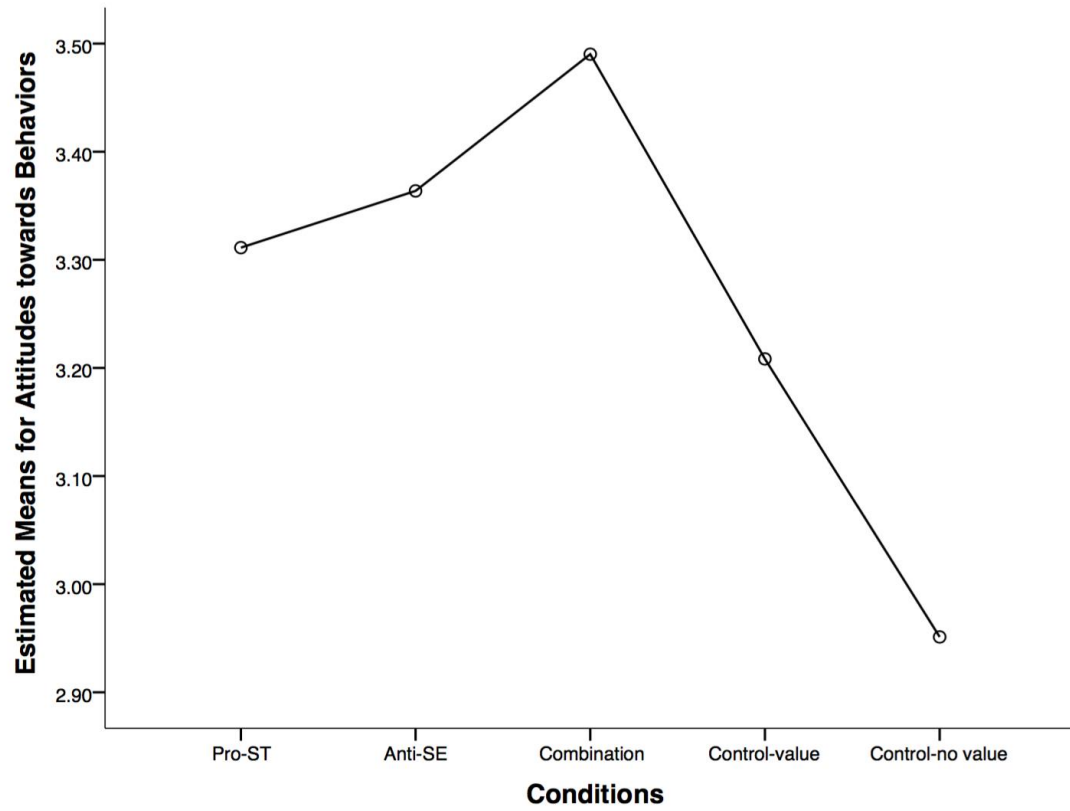
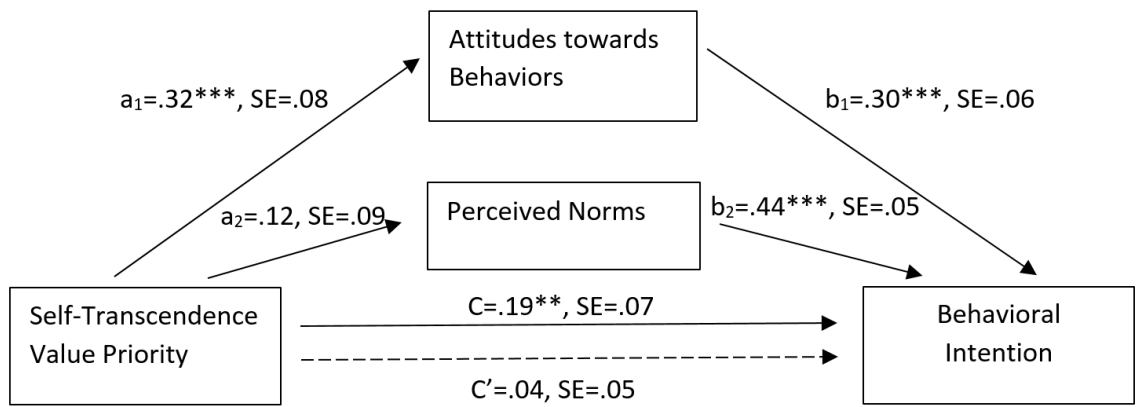
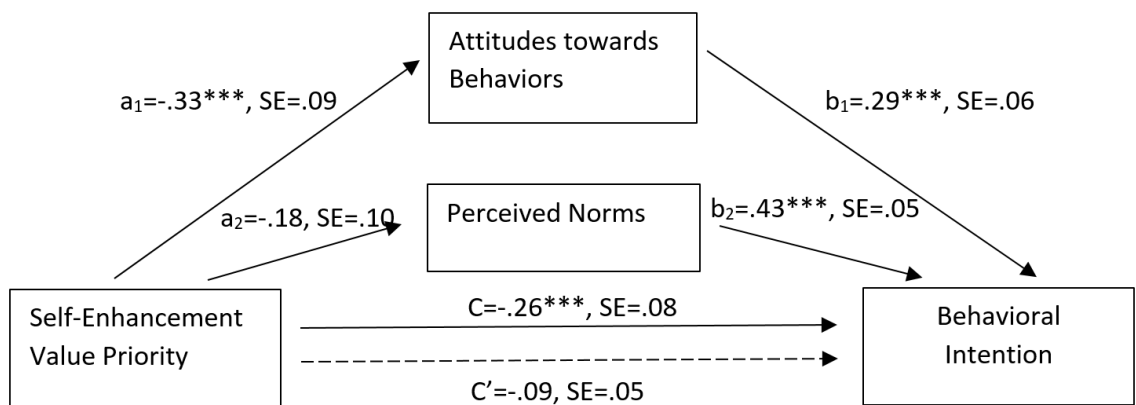


Figure 5. Attitudes towards behaviors varied significantly as a function of manipulation condition in Study 2.



(a)



(b)

Figure 6. The mediating effects of attitudes towards behavior and perceived norms for the relationship between the self-transcendence (a) and the self-enhancement (b) value priorities and behavioral intentions in Study 2.

Appendices

Appendix A: Ethics Approval Form for Study One



Research Ethics

Western University Health Science Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Ross Norman
Department & Institution: Schulich School of Medicine and Dentistry/Psychiatry, London Health Sciences Centre

NMREB File Number: 106518
Study Title: The Effect of Value Activation on Reducing Stigma of Mental Illness
Sponsor:

NMREB Initial Approval Date: April 30, 2015
NMREB Expiry Date: April 30, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Revised Western University Protocol	Revised protocol- clean version	2015/04/16
Instruments	Original self-monitoring measure	2015/04/16
Instruments	Original behavioral intentions measure	2015/04/16
Instruments	Original norms measure	2015/04/16
Instruments	Original vignettes	2015/04/16
Instruments	Original attitude measures	2015/04/16
Instruments	Original value survey	2015/04/16
Advertisement	Revised recruiting post- Clean version	2015/04/16
Other	Revised debriefing form- Clean version	2015/04/16
Revised Letter of Information & Consent	Revised LOI	2015/04/16

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.


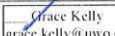


The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.


Ethics Officer on behalf of Riley Hinson, NMREB Chair or delegated board member

Ethics Officer to Contact for Further Information

 Erika Basile ebasile@uwo.ca	 Grace Kelly grace.kelly@uwo.ca	 Mina Mekhail mmekhail@uwo.ca	 Vikki Tran vikki.tran@uwo.ca
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Appendix B: Ethics Approval Form for Study Two



Research Ethics

Western University Non-Medical Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Ross Norman
Department & Institution: Schulich School of Medicine and Dentistry/Psychiatry, London Health Sciences Centre

NMREB File Number: 107204
Study Title: Value activation follow-up study
Sponsor:

NMREB Initial Approval Date October 31, 2015
NMREB Expiry Date: October 31, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Behavioral intention scale	2015/09/17
Instruments	Perceived norms scale	2015/09/17
Instruments	Attitude scales towards person and towards behaviors	2015/09/17
Instruments	Manipulation: value argument instructions	2015/09/17
Other	Debriefing form	2015/09/17
Instruments	Schwartz value survey	2015/09/17
Advertisement	Recruiting post	2015/09/17
Instruments	Vignette	2015/09/16
Revised Western University Protocol		2015/10/19
Revised Letter of Information & Consent		2015/10/19

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer, on behalf of Riley Hinson, NMREB Chair or delegated board member

Ethics Officer to Contact for Further Information: Erika Basile ___ Nicole Kaniki ___ Grace Kelly ___ Mina Mekhail ___ Vikki Tran ___

This is an official document. Please retain the original in your files

Appendix C: Value Surveys

Pre-manipulation Value Survey

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. These values come from different cultures. In the parentheses following each value is an explanation that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

0--means the value is not at all important, it is not relevant as a guiding principle for you.
 3--means the value is important.
 6--means the value is very important.

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life.

-1 is for rating any values opposed to the principles that guide you.
 7 is for rating a value of supreme importance as a guiding principle in your life;
ordinarily there are no more than two such values.

In the space before each value, write the number (-1,0,1,2,3,4,5,6,7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed								of
to my	not			important		very		supreme
values	important		important		important		importance	
-1	0	1	2	3	4	5	6	7

Before you begin, read the values in the list, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance. Then rate the rest of the values in the list.

- ___ AMBITIOUS (hard-working, aspiring)
- ___ EQUALITY (equal opportunity for all)
- ___ SOCIAL POWER (control over others, dominance)
- ___ AN EXCITING LIFE (stimulating experiences)
- ___ HELPFUL (working for the welfare of others)

- ___ POLITENESS (courtesy, good manners)
 ___ SELF-DISCIPLINE (self-restraint, resistance to temptation)
 ___ A WORLD AT PEACE (free of war and conflict)
 ___ RESPECT FOR TRADITION (preservation of time-honored customs)
 ___ SOCIAL RECOGNITION (respect, approval by others)
 ___ A VARIED LIFE (filled with challenge, novelty and change)
 ___ INDEPENDENT (self-reliant, self-sufficient)
 ___ MODERATE (avoiding extremes of feeling & action)
 ___ LOYAL (faithful to my friends, group)
 ___ SUCCESSFUL (achieving goals)
 ___ CURIOUS (interested in everything, exploring)

Post-manipulation Value Survey

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. These values come from different cultures. In the parentheses following each value is an explanation that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

- 0--means the value is not at all important, it is not relevant as a guiding principle for you.
 3--means the value is important.
 6--means the value is very important.

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life.

- 1 is for rating any values opposed to the principles that guide you.
 7 is for rating a value of supreme importance as a guiding principle in your life;
ordinarily there are no more than two such values.

In the space before each value, write the number (-1,0,1,2,3,4,5,6,7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values	not important			important		very important	of supreme importance
-1	0	1	2	3	4	5	6
							7

Before you begin, read the values in the list, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance. Then rate the rest of the values in the list

- ___ SOCIAL ORDER (stability of society)
- ___ BROADMINDED (tolerant of different ideas and beliefs)
- ___ DARING (seeking adventure, risk)
- ___ INFLUENTIAL (having an impact on people and events)
- ___ HONORING OF PARENTS AND ELDERS (showing respect)
- ___ CHOOSING OWN GOALS (selecting own purposes)
- ___ CAPABLE (competent, effective, efficient)
- ___ HONEST (genuine, sincere)
- ___ OBEDIENT (dutiful, meeting obligations)
- ___ ENJOYING LIFE (enjoying food, sex, leisure, etc.)
- ___ DEVOUT (holding to religious faith & belief)
- ___ FORGIVING (willing to pardon others)
- ___ WEALTH (material possessions, money)
- ___ CREATIVITY (uniqueness, imagination)
- ___ AUTHORITY (the right to lead or command)
- ___ SOCIAL JUSTICE (correcting injustice, care for the weak)

Appendix D: Value-Reasoning Manipulation Instructions for Study One

Instruction for Self-Enhancement condition

We would like you to think about reasons that, in general, could be used to support or oppose the importance of looking out for one's own interests and achieving personal success relative to other people. Such success could include, but not limit to, wealth, social prestige and power, etc. For example, you might believe that people should view achieving personal success as a primary goal in their life because such success proves their strong abilities and their valuable contributions to society, for which society provides them with rewards such as money and status in return. In contrast, you might believe that people should not focus too much on personal success because such success does not necessarily bring happiness and inner satisfaction. If you would like, you can write reasons that support AND reasons that oppose the importance of pursuing personal success; or you can choose to write from only one side of the argument.

We would like you to explain as clearly as possible how each of your reasons supports or opposes the importance of personal success. Try to organize your thoughts before you write.

Instruction for Self-transcendence condition

We would like you to think about reasons that, in general, could be used to support or oppose the importance of being concerned for the welfare of others. Such concern could be demonstrated when people are being helpful to other people, showing tolerance for those who are different from themselves, and caring for animals and nature. For example, you might believe that people should care about others because human beings are social animals, and that caring for others can be psychologically rewarding for ourselves. In contrast, you might believe that people are in charge of their own lives, and that we should be responsible for and only for our own lives and should not interfere with how other people live their lives. If you would like, you can write reasons that support AND reasons that oppose the importance of concern for others' welfare; or you can choose to write from only one side of the argument.

We would like you to explain as clearly as possible how each of your reasons supports or opposes the importance of being concerned about the welfare of others. Try to organize your thoughts before you write.

Instruction for Control condition

We would like you to think about what an ordinary day would be like for you. Please describe what you would usually do in a typical day. For example, you can write about what you usually do in the morning, afternoon, and at night. You can also write about particular tasks you enjoy or do not enjoy in a typical day (e.g. doing sports, writing essays, etc.) and why you enjoy them or not.

We would like you to explain as clearly as possible what your daily routine would be like. Try to organize your thoughts before you write.

Appendix E: Vignette of a Person with Schizophrenia

Female Version

Starting a couple of months ago, Alex changed in her nature. More and more she retreated from her friends and colleagues, up to the point of avoiding them. If someone managed to involve her in a conversation, she would only talk about whether some people have the natural gift of reading other people's thoughts. This question has become her sole concern. In contrast with her previous habits, she stopped taking care of her appearance and looks increasingly untidy. At work, Alex seemed absent-minded and frequently made mistakes. As a consequence, she was summoned to her boss.

Finally, Alex stayed away from work for an entire week without an excuse. Upon her return, she seemed anxious and harassed. She reported that she was absolutely certain that people not only can read other people's thoughts, but that they can also directly influence them. She was, however, unsure who would steer her thoughts. She also said that, when thinking, she was continually interrupted. Frequently she would even hear those people talk to her, and they would give her instructions. Sometimes, they would also talk to each other and make fun of whatever she was doing at the time. She said that the situation was particularly bad at her apartment. At home she felt threatened and was terribly scared. Hence, she did not spend the night at her place for a week, but rather she hid in hotel rooms and hardly dared to go out. Alex sought professional help and was told she appears to be suffering from schizophrenia.

Upon being diagnosed a few weeks ago, Alex has started taking medications prescribed by her doctor. She has shown gradual improvement, although she still experiences odd thoughts and hears strange things occasionally. She is trying hard to keep her life balanced by taking her medications and hopes to eventually get back to her job.

Male Version

Starting a couple of months ago, Alex has changed in his nature. More and more he retreated from his friends and colleagues, up to the point of avoiding them. If someone manages to involve him in a conversation, he would only talk about whether some people

have the natural gift of reading other people's thoughts. This question has become his sole concern. In contrast with his previous habits, he stopped taking care of his appearance and looks increasingly untidy. At work, Alex seemed absent-minded and frequently made mistakes. As a consequence, he was summoned to his boss.

Finally, Alex stayed away from work for an entire week without an excuse. Upon his return, he seemed anxious and harassed. He reported that he was absolutely certain that people not only can read other people's thoughts, but that they can also directly influence them. He was, however, unsure who would steer his thoughts. He also said that, when thinking, he was continually interrupted. Frequently he would even hear those people talk to him, and they would give his instructions. Sometimes, they would also talk to each other and make fun of whatever he was doing at the time. He said that the situation was particularly bad at his apartment. At home he felt threatened and was terribly scared. Hence, he did not spend the night at his place for a week, but rather he hid in hotel rooms and hardly dared to go out. Alex sought professional help and was told he appears to be suffering from schizophrenia.

Upon being diagnosed a few weeks ago, Alex has started taking medications prescribed by his doctor. With the help of his doctor and families, he has shown graduate improvement, although he still experiences odd thoughts and hears strange things occasionally. He is trying hard to keep his life balanced by taking his medications and hopes to eventually get back to his job.

Appendix F: Attitudes towards Person Scale

Given the description, please rate Alex *as best you can*, on each of the following dimensions. We realize that these can be very difficult judgments to make. Indicate your rating by placing an X on the most appropriate space of each scale:

I would think Alex is:

_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant

_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
Very Good						Very Bad

_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
Very Nasty						Very Nice

_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
Very Unattractive						Very Attractive

_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
Very Dangerous						Very Safe

Appendix G: Attitudes towards Behaviors Scale

Please indicate your feelings towards each one of the following six possible interactions with Alex by choosing the appropriate number for each item.

1. Going to a party at Alex's house would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad
1	2	3	4	5	6	7
Very Nasty						Very Nice
1	2	3	4	5	6	7
Very Unattractive						Very Attractive
1	2	3	4	5	6	7
Very Dangerous						Very Safe

2. Doing schoolwork with Alex would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad
1	2	3	4	5	6	7
Very Nasty						Very Nice
1	2	3	4	5	6	7

Very Unattractive						Very Attractive
1	2	3	4	5	6	7
Very Dangerous						Very Safe

3. Having lunch with Alex would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad
1	2	3	4	5	6	7
Very Nasty						Very Nice
1	2	3	4	5	6	7
Very Unattractive						Very Attractive
1	2	3	4	5	6	7
Very Dangerous						Very Safe

4. Trusting Alex to take care of your child would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad
1	2	3	4	5	6	7

Very Nasty							Very Nice
1	2	3	4	5	6	7	
Very Unattractive							Very Attractive
1	2	3	4	5	6	7	
Very Dangerous							Very Safe

5. Supporting your sibling or child to marry Alex would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad
1	2	3	4	5	6	7
Very Nasty						Very Nice
1	2	3	4	5	6	7
Very Unattractive						Very Attractive
1	2	3	4	5	6	7
Very Dangerous						Very Safe

6. Recommending Alex for a job would be:

1	2	3	4	5	6	7
Very Pleasant						Very Unpleasant
1	2	3	4	5	6	7
Very Good						Very Bad

1	2	3	4	5	6	7
Very Nasty						Very Nice
1	2	3	4	5	6	7
Very Unattractive						Very Attractive
1	2	3	4	5	6	7
Very Dangerous						Very Safe

Appendix H: Perceived Norms Scale

Please answer the following questions regarding how you feel or how others would react:

1a. I would feel I have a personal or moral obligation such that I really ought to be willing to go to a party at Alex's house:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

1b. How likely is it that people who are close to you (family and friends) would themselves go to a party at Alex's house?

1	2	3	4	5	6	7
They Certainly Would						They Certainly Would Not

1c. If I go to a party at Alex's house people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

2a. I would feel I have a personal or moral obligation such that I really ought to be willing to do schoolwork with Alex:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

2b. How likely is it that people who are close to you (family and friends) would themselves do schoolwork with Alex?

1	2	3	4	5	6	7
They Certainly Would						They Certainly Would Not

2c. If I do schoolwork with Alex people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

3a. I would feel I have a personal or moral obligation such that I really ought to be willing to have lunch with Alex:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

3b. How likely is it that people who are close to you (family and friends) would themselves have lunch with Alex?

1	2	3	4	5	6	7
They Certainly Would						They Certainly Would Not

3c. If I have lunch with Alex people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

4a. I would feel I have a personal or moral obligation such that I really ought to be willing to trust Alex to take care of my child:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

4b. How likely is it that people who are close to you (family and friends) would themselves trust Alex to take care of their children?

1	2	3	4	5	6	7
---	---	---	---	---	---	---

They
Certainly
Would

They
Certainly
Would Not

4c. If I trust Alex to take care of my child people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

5a. I would feel I have a personal or moral obligation such that I really ought to be willing to support my sibling or child to marry Alex:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

5b. How likely is it that people who are close to you (family and friends) would themselves support their sibling or child to marry Alex?

1	2	3	4	5	6	7
They Certainly Would						They Certainly Would Not

5c. If I support my sibling or child to marry Alex people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

6a. I would feel I have a personal or moral obligation such that I really ought to be willing to recommend Alex for a job:

1	2	3	4	5	6	7
Very Strong Obligation						No Obligation At All

6b. How likely is it that people who are close to you (family and friends) would themselves recommend Alex for a job?

1	2	3	4	5	6	7
They Certainly Would						They Certainly Would Not

6c. If I recommend Alex for a job people who are important to me would:

1	2	3	4	5	6	7
Very Strongly Approve						Very Strongly Disapprove

Appendix I: Self-Monitoring Scale

In the following list, if a statement is *true or mostly true* as it applies to you, click on **T**. If a statement is *false or not usually true* as it applies to you, click **F**.

- T F** 1. I find it hard to imitate the behavior of other people.
- T F** 2. At parties and social gatherings, I do not attempt to do or say things that others will like.
- T F** 3. I can only argue for ideas which I already believe.
- T F** 4. I can make impromptu speeches even on topics about which I have almost no information.
- T F** 5. I guess I put on a show to impress or entertain others.
- T F** 6. I would probably make a good actor.
- T F** 7. In a group of people I am rarely the center of attention.
- T F** 8. In different situations and with different people, I often act like very different persons.
- T F** 9. I am not particularly good at making other people like me.
- T F** 10. I'm not always the person I appear to be.
- T F** 11. I would not change my opinions or the way I do things in order to please someone or win their favor.
- T F** 12. I have considered being an entertainer.
- T F** 13. I have never been good at games like charades or improvisational acting.
- T F** 14. I have trouble changing my behavior to suit different people and different situations.
- T F** 15. At a party I let others keep the jokes and stories going.
- T F** 16. I feel a bit awkward in public and do not show up quite as well as I should.
- T F** 17. I can look anyone in the eye and tell a lie with a straight face (if for a right end).
- T F** 18. I may deceive people by being friendly when I really dislike them.

Appendix J: Behavioral Intention (Social Distance) Scale

Please indicate how likely is it that you would do each of the following with respect to Alex? (Please click one item on the scale for each question):

1. Go to a party at Alex's house?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

2. Have lunch with Alex?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

3. Do schoolwork with Alex?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

4. Trust Alex to take care of your child?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

5. Be willing to support having your sibling or child marry Alex?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

6. Recommend Alex for a job?

1	-	2	-	3	-	4	-	5
I certainly would		I probably would		I might		I probably would not		I certainly would not

Appendix K: Value-Reasoning Manipulation Instruction for Study Two

Instruction for Pro-ST Condition

We are collecting reasons as to why or why not university students might consider it as important to be concerned for the welfare of others. Such concern could be demonstrated when people are being helpful to other people, showing tolerance for those who are different from themselves, and caring for animals and nature.

If you are willing, could you please tell us why you might think that it IS important to be concerned about other people's welfare?

Instruction for Anti-SE Condition

We are collecting reasons as to why or why not university students might consider it as important to look out for their own interests and achieve personal success relative to other people. Such success could include, but not limit to, wealth, social prestige and power, etc.

If you are willing, could you please tell us why you might think it IS NOT important to achieve personal success relative to other people?

Instruction for Combination Condition

Some university students might consider it as important to be concerned for the welfare of others. Such concern could be demonstrated when people are being helpful to other people, showing tolerance for those who are different from themselves, and caring for animals and nature. Others students might consider it as important to look out for their own interests and achieve personal success relative to other people. Such success could include, but not limit to, wealth, social prestige and power, etc.

We are collecting reasons as to why or why not students might consider being concerned about the welfare of others as more important than looking out for one's own interests and achieving personal success relative to others.

If you are willing, could you please tell us why you might think it as more important to be concerned about others' welfare than to achieve one's personal success relative to others?

Instruction for Control-Value and Control-No Value Conditions

We would like you to think about what an ordinary day would be like for you. Please describe what you would usually do in a typical day. For example, you can write about what you usually do in the morning, afternoon, and at night. You can also write about particular tasks you enjoy or do not enjoy in a typical day (e.g. doing sports, writing essays, etc.) and why you enjoy them or not.

Curriculum Vitae

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Academic Information

- Master of Science, Psychology 2014-2016
The University of Western Ontario
- Master's Thesis: Effects of Value Reasoning on Stigmatization of People with Schizophrenia
 - Supervisor: Dr. Ross Norman
- Bachelor of Art, Honor Specialization in Psychology 2009-2013
The University of Western Ontario
- Honors Thesis: Effects of Uncertainty Orientation and Social Intelligence on Self-Ingroup Association.
 - Supervisor: Dr. Richard Sorrentino

Honors and Awards

- Western Graduate Research Grant 2014-2016
 Dean's Honor List 2009-2013

Publications

- Li, Y.**, Sorrentino, R. M., Norman, R., Hampson, E., & Ye, Y. (2016). *Effect of Informational Video, Similarity, and Uncertainty Orientation on Reducing the Stigmatization of Schizophrenia*. Manuscript in preparation.
- Babcock, S., **Li, Y.**, Sinclair, V., Thomson, C., & Campbell, L. (2016). *Two Replications of an Investigation on Empathy and Utilitarian Judgment across Socioeconomic Status*. Manuscript submitted for publication.

Oral Presentations

- Yixian Li**, & Ross Norman, (June 23, 2016). *Effect of Value Reasoning on Stigmatization of Schizophrenia*. Oral presentation at Academic Research Day, Psychiatry Department, the University of Western Ontario, London, Ontario.
- Yixian Li**. (March 5, 2014). *Prejudice and Discrimination*. Invited in-class guest talk for Introduction to Psychology course, the University of Western Ontario, London, Ontario.
- Yixian Li**, Ross Norman, Richard Sorrentino, Elizabeth Hampson, & Yang Ye. (May 14, 2014). *Can Informational Videos Reduce Stigma towards Schizophrenia?* Oral presentation at University of Western Ontario-University of Waterloo Social

Psychology 2014 Annual Conference, London, Ontario.

Poster Presentations

Yixian Li, & Ross Norman, (Jan. 21, 2016). *Arguing Against Self-Enhancement Values Leads to Less Mental Illness Stigma than Arguing for Self-Transcendence Values*. Poster Presentation at Society for Personality and Social Psychology 17th Annual Convention, San Diego, California.

Yixian Li, Ross Norman, Richard Sorrentino, Elizabeth Hampson, & Yang Ye, (Feb. 27, 2015). *Can Informational Videos Reduce Stigmas of Schizophrenia? The Content Matters*. Poster presentation at Society for Personality and Social Psychology 16th Annual Convention, Long Beach, California.

Yixian Li, Richard Sorrentino, & Yang Ye, (Feb. 15, 2014). *Effects of Uncertainty Orientation and Social Intelligence on Self-Ingroup Association*. Poster presentation at Society for Personality and Social Psychology 15th Annual Convention, Austin, Texas.

Research Experiences

Part-Time Research Assistant 2013-2014
Dr. Ross Norman, Psychiatry Department, the University of Western Ontario

Volunteer Research Assistant 2011-2013
Dr. Richard Sorrentino, Psychology Department, the University of Western Ontario

Teaching Experiences

Teaching Assistant 2014-Present
Psychology Department, The University of Western Ontario

Teaching Assistant Training Program Certificate 2014
The University of Western Ontario

Committee and Editorial Work

Colloquium Committee Member 2015-Present
Psychology Department, the University of Western Ontario

Graduate Student Editor 2014-2015
Western Undergraduate Psychology Journal, the University of Western Ontario

Society Membership

Student member 2013-Present
Society for Personality and Social Psychology

Student member 2015-Present
Association for Psychological Science