

THE EFFECTS OF PROSPECTIVE NATURALISTIC CONTACT ON THE STIGMA OF MENTAL ILLNESS

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The primary aim of this study was to determine whether naturalistic, interpersonal contact with persons with a severe mental illness (SMI) could reduce stigma. Participants from the agency Compeer (which pairs volunteers with people with SMI) were compared to volunteers from a control agency and to nonvolunteer participants from the community on stigma measures over a 6-month period. The quality of the relationship between the Compeer volunteer and consumer and its association with changes in stigmatizing attitudes was also assessed. The results provide preliminary evidence that naturalistic contact can reduce negative affective responses to individuals with SMI. Furthermore, changes in affective response were related to the quality of the contact between the Compeer volunteer and consumer. Implications for future research are discussed. © 2006 Wiley Periodicals, Inc.

The Surgeon General of the United States has identified stigma as a significant impediment to the treatment of mental disorders; it may be one cause of the public's reluctance to pay tax dollars for mental health services and for people's unwillingness to seek treatment (U.S. Department of Health and Human Services, 1999). Indeed, numerous studies have shown that persons with a severe mental illness (SMI) feel stigmatized by society (e.g., Wahl, 1999) and that the general public views persons with SMI negatively (e.g., Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). These negative attitudes include viewing persons with SMI as dangerous, unpredictable, and having a poor prognosis (Corrigan et al., 2000; Crisp et al., 2000; Hayward & Bright, 1997). In addition, stigmatizing attitudes result in a number of pernicious consequences for those with a mental illness. Specifically, people with SMI are less likely to have apartments leased to them (Lawrie,

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1999; Link & Phelan, 2001; Page, 1995), less likely to be given job opportunities (Farina & Felner, 1973; Lawrie, 1999; Link & Phelan, 2001), less likely to receive adequate health care (Lawrie, 1999), and more likely to have a lower quality of life (Link & Phelan, 2001). Thus, a concerted effort to support stigma-reducing campaigns and research is needed.

Researchers first proposed the contact hypothesis as a method for changing prejudicial attitudes toward ethnic minority groups (Allport, 1954; Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1996). According to this model, positive contact with people from the stigmatized group is inconsistent with negative stereotypes and thus results in improved attitudes and behaviors; that is, a reduction in stigma (Amir, 1969; Desforges et al., 1991). In general, contact works best when both people are seen as having equal status, when contact is intimate (one-on-one), and when people work together in a cooperative rather than competitive manner (Islam & Hewstone, 1993; Kolodziej & Johnson, 1996).

When contact is studied retrospectively (i.e., when people report how much previous contact they have had with stigmatized persons), there is substantial evidence that contact is related to more positive emotional responses and a desire for less social distance from persons with a mental illness (Arikan & Uysal, 1999; Chung, Chen, & Liu, 2001; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Ingamells, Goodwin, & John, 1996; Vezzoli et al., 2001). Although these findings are encouraging, retrospective research is limited in that it is impossible to know if people who report previous contact held less stigmatizing views about people with SMI before contact occurred.

A stronger test of the contact hypothesis is to measure contact prospectively. A recent review of the literature indicates that, in general, contact measured prospectively also appears to reduce stigma (Couture & Penn, 2003). However, research in this area has generally been limited by examining contact in artificial situations (e.g., classrooms, laboratory enactments), which does not provide the proper context for how contact may work in the real world. In other words, the ecological validity of classroom or laboratory studies is questionable. The present study was designed to address this important limitation.

This study will examine the effects of naturalistic, interpersonal contact via participation in a volunteer program, Compeer, on stigma. Compeer matches volunteers in the community with individuals with mental illness (identified in this study as a "Compeer friend"). The Compeer volunteers (the "treatment" group) will be compared to two control groups: one consisting of individuals volunteering with persons with developmental disabilities (referred to as "ARC controls"—ARC stands for Association for Retarded Citizens) and one composed of people recruited from the community who are not currently participating in any volunteer activity (referred to as "Community controls"). The ARC controls were chosen because some of the negative attitudes about developmental disabilities and mental illness are similar (i.e., social distance, social restrictiveness, benevolence; Horner-Johnson et al., 2002; Tang, Davis, Wu, & Oliver, 2000), although not completely overlapping (i.e., persons with mental retardation are not typically viewed as dangerous).

It is hypothesized that weekly contact with a person with SMI over a 6-month period will reduce negative attitudes toward these individuals, with effects being most pronounced for the comparison of the Compeer volunteers and Community controls. A second hypothesis was formulated about the relationship between the Compeer volunteer and Compeer friend and attitude change. As discussed previously, it is not merely the quantity of contact that one has with a stigmatized group, but rather the quality of the contact that impacts negative attitudes (Desforges et al., 1991; Islam & Hewstone, 1993). One way to directly assess the quality of contact is by asking volunteers to rate the strength of the "bond" between themselves and their Compeer friend. It is hypothesized

that a greater (i.e., more positive) bond between the Compeer volunteer and Compeer friend will be related to a greater reduction in stigma-related attitudes. In addition, we included a personality measure, the Prosocial Personality Battery (PSB; Penner, Fritzsche, Craiger, & Freifield, 1995), which has been shown to differentiate people who volunteer from those who do not. This measure will allow us to address the issue of whether there are characteristics about the Compeer volunteers that are different from the other two groups.

METHOD

Participants

Three groups of participants were recruited for this study: Compeer volunteers ($N = 36$), ARC controls ($N = 24$), and Community controls ($N = 38$). The Compeer director recruited volunteers for the agency by posting fliers and giving presentations at local universities, community colleges, and community organizations. The Compeer program is based on the perspective of friendship building, rather than as helping a “sick” person, for the purpose of creating a more equal relationship. The director of the Compeer program described the study to prospective participants by using an information sheet provided by the experimenters. It was emphasized that the decision of whether or not to participate in the study would not affect the volunteer’s status in Compeer. If the volunteer chose to participate, his or her contact information was forwarded to the study coordinator. After ensuring that the participant met the inclusion and exclusion criteria (described below), she or he was sent a packet of questionnaires to complete.

The Association for Retarded Citizens (ARC) program is analogous to the Compeer program. People from the community are paired with persons with developmental disabilities and the dyads meet about once a week, similar to Compeer volunteers (e.g., go to movies, museum, coffee, etc.). The ARC director recruited ARC volunteers from the Chapel Hill/Carrboro area using similar methods utilized by the Compeer program. Volunteers were interviewed and, upon approval for being an ARC volunteer, the volunteer coordinator described the study to participants using the information sheet and obtained permission to transmit their contact information to the study coordinator using the release form. The study coordinator then contacted the ARC controls, assessed their appropriateness for the study, and sent participants questionnaire packets.

The second comparison group, Community controls, was recruited through fliers and mailings, or was told about the study when they participated in other non-stigma-related studies.

All participants were excluded if they had ever been hospitalized for a severe mental illness, had ever received treatment or been diagnosed with a schizophrenia-spectrum disorder, or currently worked (or had previously worked) in the mental health field. Community controls and ARC controls were excluded if they had participated in volunteer work with persons with SMI. Community controls could not currently be participating in any type of volunteer activity, because the purpose of this group was to control for the effects of time without engaging in any activity.

Demographic characteristics of study participants are presented in Table 1. Separate statistics are displayed for each group, as significant group differences emerged for age (ARC controls were significantly younger than the other two groups) and ethnicity (Community controls differed from the other two groups) but not for years of education or gender.

Table 1. Demographic Characteristics, Previous Contact, and PSB Descriptive Statistics

	Compeer volunteers		ARC controls		Community controls	
	Mean	SD	Mean	SD	Mean	SD
Age	32.44	12.2	24.33	7.6	32.11	10.9
Yrs Ed	14.75	2.0	15.46	2.0	15.66	1.9
PC	3.08	1.6	2.63	2.0	2.22	1.7
PSB-emp	83.71	8.3	85.00	7.3	80.94	9.2
PSB-help	27.11	4.9	25.82	4.1	26.69	4.9
	Percent		Percent		Percent	
Gender						
Female	83.3		91.7		76.3	
Ethnicity						
Caucasian	80.6		91.7		57.9	
Afr-Am	16.7		4.2		18.4	
Latino	0.0		4.2		2.6	
Asian	0.0		0.0		5.3	
Other	2.8		0.0		15.8	

Note. Yrs Ed = Years of Education; PC = Previous Contact; PSB-emp = Prosocial Personality Battery, Empathy Subscale; PSB-help = Prosocial Personality Battery, Helpfulness Subscale; Afr-Am = African-American. ARC controls were significantly different on age from the other two groups, and the Community controls differed from the other two on the distribution of ethnicity.

Because they were not the focus of the current study, we did not get permission from either Compeer or ARC to collect personal information on the Compeer or ARC friends. However, the directors of these programs matched the volunteers and friends in age and gender. According to the directors, the majority of participants in the Compeer program have diagnoses corresponding to a severe mental illness (i.e., schizophrenia, schizoaffective disorder, or bipolar disorder), while those in the ARC program typically had a diagnosis of mental retardation.

Measures

Social Distance Scale (SDS). The Social Distance Scale (Link, Cullen, Frank, & Wozniak, 1987) is composed of seven questions that refer to interactions with a hypothetical individual with a mental illness, with the primary goal of assessing social avoidance. Participants were asked to rate how willing they would be from 0 (*definitely unwilling*) to 3 (*definitely willing*) to have a certain situation occur. Summing the items provides a composite measure of social distance. The reliability of this measure (internal consistency) was adequate for this study (0.87).

Dangerousness Scale (DS). The Dangerousness Scale (Link et al., 1987) has eight items that assess beliefs about whether a person who is (or who has been) mentally ill is likely to be a danger to others. Participants were asked to rate how much they agree with items ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Summing the eight items gives a composite

score of perceived dangerousness. The internal consistency of the scale was adequate for this study (0.82).

Affect Scale (AS). The Affect Scale (see Penn et al., 1994) consists of 10 bipolar adjective pairs having emotional content. Participants rated emotional reactions to persons with mental illness in general on a seven-point scale, with the bipolar adjectives at either end of the scale (e.g., empathic versus angry) and a neutral reaction at the mid-point. Items are summed to obtain a composite score of the participant's affective reaction to interacting with someone with a severe mental illness. The internal consistency in this sample was 0.87.

Contact Scale (CS). The Contact Scale (Link & Cullen, 1986) was used to determine the extent of each participant's previous contact with people with SMI. It consists of seven items inquiring about various types of direct contact. Participants were asked to respond "yes" or "no" to each item, and a composite score was obtained by summing the items. Higher scores reflect greater self-reported previous contact. Internal consistency has been found to be 0.70 (Link & Cullen, 1986), similar to the alpha of 0.72 in this sample.

Bond Subscale of the Working Alliance Inventory (WAI). Horvath and Greenberg (1986) developed the Working Alliance Inventory (WAI) for the psychotherapy literature. Although there are three subscales for the WAI, the Bond subscale was the only one used in this study, as the other two are only applicable to therapy contexts. The Bond subscale is composed of nine items and was modified for the current study. Specifically, the wording of items was changed to inquire about the person's feelings about the Compeer friend instead of a therapist. Compeer volunteers rated statements on a Likert-type scale (1–7) to indicate the strength of the bond between them and their Compeer friend. Higher scores reflect a stronger bond. The Bond subscale modification for this study achieved internal consistency of 0.83.

Prosocial Personality Battery (PSB). The Prosocial Personality Battery (Penner et al., 1995) comprises 30 items that assess other-oriented empathy and helpfulness. The PSB has been shown to predict prosocial behavior (Penner et al., 1995). Both subscales have internal consistency greater than 0.80 and test–retest reliabilities of 0.77 for other-oriented empathy and 0.85 for helpfulness (Penner & Finkelstein, 1998). Similarly, alphas for this study were 0.79 for other-oriented empathy and 0.77 for helpfulness.

Procedure

All participants completed the Contact Scale at baseline only, and the SDS, DS, and AS at baseline and at 6 months. In addition, Compeer volunteers completed the bond measure at 6 months, and all participants completed the PSB at 6 months.¹ Stigma measures were coded so that higher scores reflect higher levels of stigmatizing attitudes.

¹ The PSB was added to the study at a later date and was administered to all participants at the 6-month time point to avoid any potential confounds with time.

Overview of Data Analyses

Preliminary analyses were conducted to examine whether the three groups differed on the Personality or Previous Contact variables. We then examined whether attrition rates varied across groups.

To examine the primary hypothesis that prospective, naturalistic interpersonal contact can reduce stigma, a 3 (group: Compeer versus ARC controls versus Community controls) \times 2 (time: baseline versus 6-month posttest) multivariate analyses of variance (MANOVA), with repeated measures on the time variable, was conducted separately on the social distance, perceived dangerousness, and affective response variables given the high correlations among these variables. These were followed by a series of 3 (group: Compeer volunteers versus ARC controls versus Community controls) \times 2 (time: baseline versus 6-month posttest) analyses of variance (ANOVA), with repeated measures on the time variable, to further examine the pattern of findings. The effect of interest in these analyses is the group \times time interaction, as this would reveal a differential change in attitudes over time across groups.

To examine the hypothesis that the strength of the bond formed between the Compeer volunteer and their Compeer friend would affect the relationship between interpersonal contact and negative attitudes, Pearson correlations were computed. Specifically, stigmatizing attitudes at 6 months were subtracted from stigmatizing attitudes at baseline to obtain a difference score (i.e., baseline attitudes – posttest attitudes = difference score). These difference scores were then correlated with bond scores. Positive correlations would indicate that a reduction in stigmatizing attitudes is related to a stronger bond between the Compeer volunteer and the Compeer friend.

RESULTS

Personality and Previous Contact Analyses

The one-way (group: Compeer volunteers, ARC controls, Community controls) MANOVA conducted on the two PSB subscales (empathy and helpfulness) was not statistically significant ($\lambda = 0.938$, $F_{(4, 152)} = 1.24$, $p = 0.298$); participants from the three groups did not differ on these personality characteristics. The one-way (group) ANOVA conducted on the previous contact scores was also not significant ($F_{(2, 96)} = 2.33$, $p = 0.103$). These findings argue against a selection bias being present in the groups as they were comparable in personality attributes and prior contact with individuals with a mental illness. Means for these measures are presented in Table 1.

Analysis of Attrition

Chi-square analyses were performed to evaluate whether differential attrition rates were present across groups. Drop-out rates were 38.4% for Compeer volunteers, 41.6% for the ARC controls, and 15.7% for the Community controls, which were significantly different from one another ($\chi = 6.5$, $df = 2$, $p = 0.039$). This resulted in 6-month posttest sample sizes of 22 (Compeer volunteers), 14 (ARC controls), and 32 (Community controls). We then conducted a series of t-tests to determine whether those who completed the study (i.e., study “completers”) had different demographic characteristics or stigmatizing attitudes at

Table 2. Correlations among Dependent Variables

	SDS	DS	AS
SDS	1	0.720*	0.603*
DS		1	0.599*

* $p < 0.01$.

baseline than those who did not complete the study (i.e., study “dropouts”). Completers did not differ from dropouts on any of the demographic, baseline stigma, or personality variables, other than years of education; study completers had approximately one additional year of education compared to study dropouts (mean = 15.5 versus 14.3; $p = 0.032$).

Primary Analyses

A 3 (group) \times 2 (time) MANOVA, with repeated measures for time, was conducted on the social distance, perceived dangerousness, and affective response variables, given the high intercorrelation among these variables (Table 2). Neither the main effect of time ($\lambda = 0.98$, $F_{(3, 62)} = 0.36$; $p = 0.78$) nor the interaction ($\lambda = 0.88$, $F_{(6, 124)} = 1.38$; $p = 0.23$) were statistically significant. However, there was a significant main effect for group ($\lambda = 0.77$, $F_{(6, 124)} = 2.82$; $p = 0.01$). This main effect is discussed below with the univariate analyses. These results were unchanged after including age or ethnicity as a covariate in the analyses (due to the initial group differences in age). Table 3 displays pre- and posttest means for all stigma measures.

A series of 3 (group) \times 2 (time) ANOVAs, with repeated measures on time, were conducted on the social distance, dangerousness, and affective response variables separately to further examine the pattern of findings. For social distance, there was a significant main effect for group ($F_{(2, 67)} = 7.19$, $p = 0.002$); posthoc tests using Tukey’s Honestly Significant Difference (HSD) revealed that the Compeer volunteer and ARC control groups desired less social distance from individuals with SMI than the Community controls. Neither the main effect of time ($F_{(1, 65)} = 1.19$, $p = 0.28$), nor the group \times time interaction ($F_{(2, 65)} = 0.57$, $p = 0.57$) were statistically significant.

For the Dangerousness Scale, a 3 (group) \times 2 (time) ANOVA revealed a significant main effect for group ($F_{(2, 67)} = 7.82$, $p = 0.001$). Posthoc tests with Tukey’s HSD indicated that the Compeer volunteer and ARC control groups reported lower levels of perceived dangerousness than Community controls. The main effect of time ($F_{(1, 65)} = 0.20$, $p = 0.66$) and the interaction of group and time ($F_{(2, 65)} = 0.43$, $p = 0.66$) were not statistically significant.

Finally, a 3 (group) \times 2 (time) ANOVA conducted on the Affect Scale revealed that the main effect for time ($F_{(1, 64)} = 0.07$, $p = 0.80$) was not statistically significant. In contrast, the main effect for group ($F_{(2, 66)} = 3.25$, $p = 0.04$) was statistically significant; posthoc tests using Tukey’s HSD revealed that the Compeer volunteer group had more positive affective responses to individuals with mental illness relative to Community controls. The interpretation of this main effect was qualified by a group \times time interaction that approached statistical significance ($F_{(2, 64)} = 2.04$, $p = 0.14$) (Figure 1).

Probing the interaction revealed that Affect Scale scores for the ARC controls ($t_{13} = -0.53$, $p = 0.61$) did not significantly change over time. However, the t -tests for the Community control participants ($t_{30} = -1.37$, $p = 0.18$) and the Compeer volunteers

Table 3. Pre- and Postdescriptive Statistics for Stigma Measures

	Compeer volunteers		ARC controls		Community controls	
	Mean	SD	Mean	SD	Mean	SD
SDS-1	7.67	3.6	7.63	4.2	10.29	3.9
SDS-2	7.09	3.8	7.64	3.9	10.78	3.6
DS-1	19.00	8.1	19.63	6.4	26.29	9.4
DS-2	18.95	8.6	19.07	5.6	25.93	8.8
AS-1	24.90	8.7	25.13	8.0	28.11	9.7
AS-2	22.45	7.3	27.07	10.7	29.59	8.9

Note. SDS = Social Distance Scale; DS = Dangerousness Scale; AS = Affect Scale; 1 and 2 denote time 1 (baseline) and time 2 (6 months). Significant differences emerged for DS and SDS at both time points, with Community controls being more stigmatizing than the other two groups. At time 2, there was a significant difference between Compeer volunteers and Community controls on the AS.

($t_{21} = 1.67, p = 0.11$) revealed marginally significant results. These results suggest a *reduction* in negative attitudes for the Compeer volunteers over time and an *increase* in negative attitudes for the Community controls over time.

A pair of one-way ANOVAs (group) conducted separately on the baseline and 6-month Affect Scale scores lend further support for this interpretation. The ANOVA conducted on baseline Affect Scale scores was not statistically significant ($F_{(2, 95)} = 1.39, p = 0.25$); however, there was a significant group effect at 6 months ($F_{(2, 67)} = 4.29, p = 0.02$). Posthoc tests using Tukey's HSD revealed a significant difference between Compeer volunteers and Community controls, suggesting that their ratings on this measure diverged over time. Table 2 provides the pre- and posttest means for the three groups.

Finally, the primary analyses, including age, ethnicity (given group differences at baseline on these variables), and education (given differences between study completers and dropouts), were repeated as covariates, and the results were unchanged.

Bond and Stigma Change

Pearson correlations were computed to examine whether changes in stigmatizing attitudes were related to the strength of the bond formed between Compeer volunteers and their Compeer friends. Difference scores were computed between baseline and 6-month stigma assessments and were then correlated with Bond scores. The correlations for the Social Distance Scale ($r = 0.31, p = 0.17$) and the Dangerousness Scale ($r = 0.23, p = 0.31$) were not statistically significant. However, a significant association emerged between the Affect Scale and the Bond scale ($r = 0.55, p = 0.01$); a stronger relationship between the Compeer volunteer and Compeer friend was associated with a greater reduction in negative attitudes over time.

DISCUSSION

The purpose of this study was to prospectively examine the effects of contact on stigmatizing attitudes in a naturalistic context. It was hypothesized that Compeer volunteers would report greater reduction in stigmatizing attitudes relative to the other two groups,

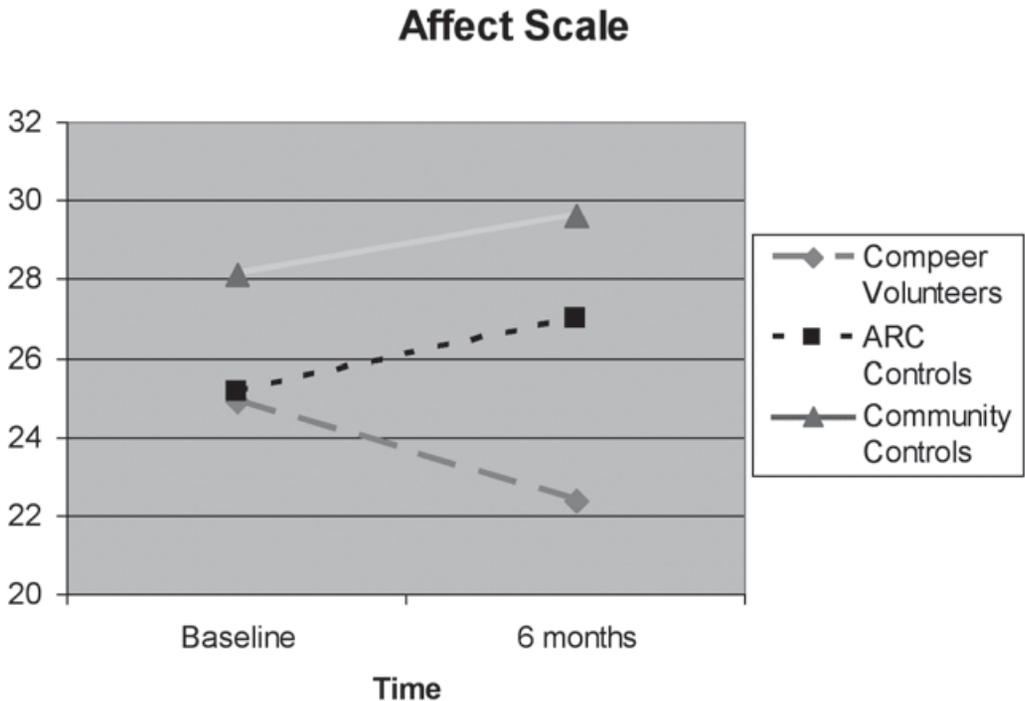


Figure 1. Baseline and 6-month means on the Affect Scale across groups.

with the difference being largest between Compeer volunteers and Community controls. In addition, it was hypothesized that the bond formed between the Compeer volunteer and friend would affect the amount of stigma change. The first hypothesis had some preliminary support; there was a statistical trend for prospective contact to be associated with a reduction in negative affective reactions to individuals with SMI. The second hypothesis also received some preliminary support; bond ratings were only associated with changes on the Affect Scale. These findings are discussed in more detail below.

Prospective contact appeared to have a specific effect, at trend levels, on affective reactions to individuals with SMI. Posthoc analyses revealed that Compeer volunteers showed a decrease in negative affective attitudes over time compared to Community controls, who showed a marginally significant increase in negative affective attitudes. These results, albeit promising, should be interpreted cautiously, as these findings approached statistical significance.

It was hypothesized that the stigma change would be related to the strength of the bond between the Compeer volunteer and Compeer friend. There was some support for this hypothesis, as the relationship between a reduction in (negative) affective attitudes and personal bond was statistically significant. As the Affect Scale was the only stigma measure that directly assesses emotions and the Bond scale is a measure of emotional attachment, it makes intuitive sense that these constructs would have the strongest association. Furthermore, this suggests a possible mechanism of how contact reduces stigma. Specifically, interpersonal contact may have proximal effects on emotional responses, which perhaps is a necessary, but not sufficient, step to general attitude change. This is consistent with the hypothesized mechanism underlying stigma change proposed by

Corrigan and colleagues, namely that if feelings change from anger to sympathy, individuals may be more likely to engage in helping behaviors and further contact with persons with SMI (e.g., Corrigan, 2000). Of course, this interpretation presupposes that a path analysis was conducted, but it was not; thus, this interpretation should be viewed as speculative in nature.

The two volunteer groups did not differ from the Community controls on the Prosocial Personality Battery. It is possible that the Community controls were, in some sense, “volunteers” as well; they made an effort to respond to fliers or had previously volunteered for other studies. Thus, these individuals may be a subset of the “nonvolunteer” population who have qualities of volunteerism via their interest in research participation.

Although the current quasi-experimental design limits our ability to draw causal inferences, our confidence in the findings are strengthened by the fact that the three groups did not differ in previous contact with mental illness or in prosocial personality characteristics. However, the two volunteer groups (Compeer volunteers and ARC controls) did report less stigmatizing attitudes toward individuals with mental illness on two variables at baseline (social distance and dangerousness), underscoring the problems with relying on self-selected groups. Thus, the present findings are promising and provide a conservative test of the contact hypothesis in a naturalistic setting. Future research should extend the current findings by examining prospective, naturalistic contact in the context of a randomized, controlled design.

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