A reply to Gallagher, O'Donnell, Minescu, & Muldoon's commentary on 'The effects of identification with a support group on the mental health of people with multiple sclerosis'

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We wish to thank Gallagher and his colleagues for their kind words and insightful comments regarding our recent paper on the effects of identification with a support group on the mental health of people with multiple sclerosis. We too agree that this is an important area of research that is worthy of much future study. Below we provide a brief discussion of each of the three comments that Gallagher and colleagues made about our paper.

Gallagher et al.'s first comment relates to their observation that there is often variation in the way in which support groups are run, as well as in support groups' objectives. We agree entirely with their suggestion that this variation may account (in part) for some of the poor outcomes observed in some of the specific support groups that we outlined in our paper. We also agree that the nature of a specific support group (i.e., its particular ethos and how it is structured and run) could affect patients' identification with that support group, which (as we show in the paper) could ultimately affect patients' mental health. Space constraints in the paper meant that we were unable to address this topic, but we agree that the heterogeneity of support groups is a potentially important issue, and one that deserves future study.

The second comment relates to the idea that social support may function as a mediator of the relationship between support group identification and mental health. We agree that this is an important point. However, it should be kept in mind that, as Gallagher et al. hint, it is not yet clear whether group identification (as a construct) is entirely separate from perceived ingroup member social support. Indeed, we have recently conducted some studies (currently unpublished) in which we have measured both elements, and we have found that the two variables tend to load onto the same factor during factor analysis. In light of these results, we are increasingly suspicious that social support is actually a manifestation of group identification. Basically, one's subjective sense of belonging to a group and one's sense of commonality with in-group members are likely to coincide with one's expectation that the group's members are willing to support each other in times of need. Moreover, even if we assume that the two constructs are independent, it is difficult to know

whether social support mediates the relationship between group identification and health, or whether group identification mediates the relationship between social support and health. With respect to this conundrum, it should be noted that while Gallagher et al. point to the former possibility, with specific reference to a study conducted by Haslam and his colleagues [1], Gleibs and colleagues [2] have found evidence to support the latter possibility. Indeed, there is also a third possibility: that the two variables create a loop of reciprocal causality, with each variable strengthening the other in a 'virtuous cycle'. There is no doubt that future work is sorely required in order to test these different hypotheses. However, we suspect that only a longitudinal study would be able to shed light on the complexities of the relationship between group identification, social support, and mental well-being.

The third comment involves the topic of participants' gender, and its potential effects on the relationship between group identification and health. In our paper, we decided not to include gender as a control variable in any of our regressions. This is because the size of our sub-samples was considered not to be large enough to allow for testing individual predictors in a regression analysis. For instance, Green [3] indicated that in order to test individual predictors in a regression analysis one should have 104+*k* participants, where *k* is the number of predictors. While we could meet this criterion with our analyses involving the whole sample, we were unable to meet it with our analyses involving the multiple sclerosis sub-groups. This would have meant that some of our analyses would have included gender as a control variable and some would not have included it, leading to an unsymmetrical (and potentially confusing) reporting of our results. Nonetheless, since it is statistically legitimate to include gender as a control variable in a regression analysis involving the whole sample, we have re-conducted our whole-sample analyses in order to take gender into account. We found that gender was a significant covariate in each of the three regression analyses (with depression, anxiety and life satisfaction as respective outcomes). However, while including gender in the regression does reduce the impact of group identification on the three mental health indicators, group identification remains a significant predictor of anxiety and life satisfaction, and a

marginally-significant (*P* =.053) predictor of depression. Gallagher et al. also enquire about the differences between males and females in terms of mental health. Conducting *t*-tests across the whole sample revealed that males were significantly more depressed and anxious than females, and had significantly lower life satisfaction. Intriguingly, these findings are generally inconsistent with the literature, which tends to show that females (regardless of whether or not they have multiple sclerosis) are more likely to experience mental health problems such as depression and anxiety [4,5]. In light of these findings regarding men's relatively high levels of depression and anxiety, we find it interesting that we did not observe a relationship between group identification and health in the Secondary Progressive participants (who were 78% male). We agree with Gallagher et al. regarding their observation that future research should investigate the important (and potentially complex) ways in which gender could interact with social identity in order to affect mental health.

In conclusion, we thank Gallagher and colleagues for their interest in our work, and their useful suggestions for how our research could be extended and enhanced. We hope that our brief responses have gone some way to addressing their comments. Finally, we would like to use this opportunity to emphasize once again the importance of looking at group identification as a crucial determinant of mental health, and to encourage others to engage in thought, debate, and research regarding these issues.

References

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