

Rates of Imposter Syndrome Among Female-Identifying Individuals in Undergraduate STEM Programs at McMaster University

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Abstract

Many academic professionals lack internal validation for their successes and fear exposure as an intellectual fraud, despite high academic excellence and achievement. This phenomenon is known as imposter syndrome, characterized by an individual lacking an internal sense of success, regardless of achievements, resulting in feelings of 'intellectual phoniness' (Clance & Imes, 1978). This research was conducted as part of a group-based thesis for SOCPSY 4ZZ6 and had received MREB ethics approval. Our research will be analyzed using an intersectional approach as it offers an understanding that multiple systems are at play. The origins of imposter syndrome focus on female-identifying individuals in academics, and the social psychological experiences associated with the contributing factors (Clance & Imes, 1978). Imposter syndrome can be understood as cognitive distortions arising from a combination of family dynamics, gendered social expectations, and historical representations of scholars (Clance & Imes, 1987; Meyers, 1978; Edwards; 2019). This produces an agent of socialization informing female-identifying individuals about the roles related to being a scholar. Imposter syndrome is maintained through these cognitive distortions and the associated behaviours. These behaviours include individual interpretations of capabilities, accomplishments, and behaviours to avoid exposure (Gadsby, 2022; Clance & Imes, 1978).

Previous research shows that female-identifying individuals in STEM programs experience gendered expectations, biases, and stereotypes within male-dominated fields, creating barriers as a result of gender discrimination (O'Connell & McKinnon, 2021; Crawford, 2021). This includes the 'lack of fit' model, tightrope bias, and prove-it-again bias, all of which can produce negative psychological effects (O'Connell & McKinnon, 2021; Crawford, 2021).

This research aims to determine if rates of imposter syndrome are higher for female-identifying individuals in male-dominated fields. Additionally, we aim to observe the factors contributing to the persistence of imposter syndrome. We are currently recruiting Undergraduate McMaster students and are collecting data using an online, anonymous application, Lime Survey, to collect both qualitative and quantitative results to evaluate the levels of imposter phenomenon among undergraduate students at McMaster. We hope the quantitative data will provide insight into the prevalence of imposter syndrome, and the qualitative results will show specific factors contributing to this phenomenon. Once data collection is over, we believe our analysis will show that women-identifying individuals will show higher rates of imposter syndrome and higher rates for those in STEM programs. Our aim is for the results of this study to spotlight the effects a male-dominated field has on younger women-identifying individuals entering into adulthood. We hope these findings will allow us to apply it to our own lives as students and future students entering STEM fields.

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